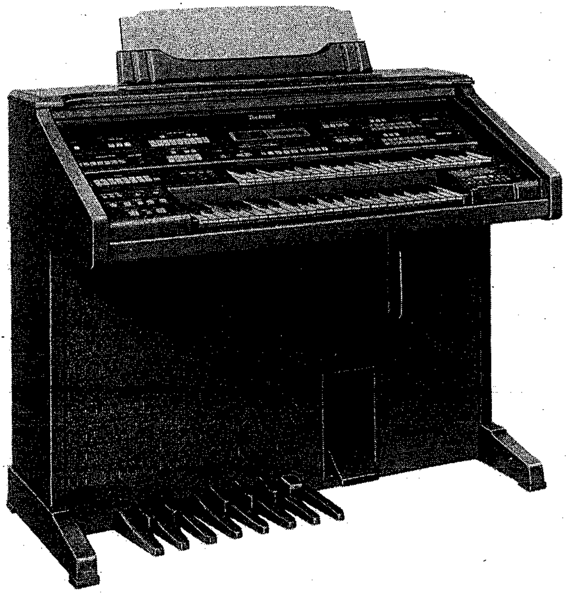
ORDER NO. EMID921401
A4

Service Manual

Electronic Organ

SX-GN6

(M), (MC), (XM), (EN), (EH), (EF), (EZ), (EW), (EA),
(EP), (EK), (XL), (XR), (XS), (XD), (X), (XT)



AREAS

(M):	U.S.A.	(EK):	the United Kingdom
(MC):	Canada	(XL):	New Zealand
(XM):	Mexico	(XR):	Australia
(EN):	Norway, Sweden, Denmark, Finland	(XS):	Malaysia, Singapore, South Africa
(EH):	Holland	(XD):	Saudi Arabia, Kuwait
(EF):	France, Italy, Belgium	(X):	the Middle East, Indonesia, Hong Kong, the Philippines, Thailand,
(EZ):	Germany		
(EW):	Switzerland		
(EA):	Austria		
(EP):	Spain, Portugal, Greece	(XT):	Taiwan

■ Specifications

KEYBOARD			UPPER KEYBOARD 49 KEYS LOWER KEYBOARD 49 KEYS PEDAL KEYBOARD 13 KEYS, FULL BASS PEDAL
SOUND GENERATOR			PCM
MAXIMUM NUMBER OF NOTES PRODUCED SIMULTANEOUSLY			32 NOTES (NUMBER OF NOTES WHICH CAN BE INPUT SIMULTANEOUSLY: UPPER KEYBOARD 8 NOTES, LOWER KEYBOARD 8 NOTES, PEDAL KEYBOARD 1 NOTE)
SOUNDS	ORCHESTRAL CONDUCTOR		○
	PARTS		UPPER KEYBOARD: TAB & ORGAN, POLY, SPECIAL, SOLO LOWER KEYBOARD: TAB & ORGAN, POLY, SPECIAL, SOLO
	UPPER	POLY, SPECIAL, SOLO	48 SOUNDS (16 SOUNDS×3 VARIATIONS) PIANO, ELECTRIC PIANO, HARPSICHORD, MALLET, GUITAR, ELECTRIC GUITAR, SPECIAL PERCUSSION, SYNTH, BRASS, TRUMPET, SAX/SYNTH BRASS, REED, ACCORDION, FLUTE, VOCAL, STRINGS
		TAB	FLUTE 16', 8', 5-1/3', 4', 2-2/3', 2', 1' PERC 4', 2-2/3'
		ORGAN	1~9
	LOWER	POLY, SPECIAL, SOLO	48 SOUNDS (16 SOUNDS×3 VARIATIONS) PIANO, ELECTRIC PIANO, HARPSICHORD, MALLET, GUITAR, ELECTRIC GUITAR, SPECIAL PERCUSSION, SYNTH, BRASS, TRUMPET, SAX/SYNTH BRASS, REED, ACCORDION, FLUTE, VOCAL, STRINGS
		TAB	8', 4', 2-2/3', 2', 1'
		ORGAN	1~5
	BASS		18 SOUNDS (6 SOUNDS×3 VARIATIONS) ORGAN, ACOUSTIC, ELECTRIC, CHOPPER, SPECIAL 1, 2
	ONE TOUCH REGISTRATION		○

EFFECTS	SUSTAIN	UPPER, LOWER, BASS
	EFFECT	UPPER, LOWER, BASS
	TOUCH	UPPER, LOWER
	DIGITAL REVERB	○ (ROOM, STAGE, HALL)
	GLIDE	UPPER
	TREMOLO	UPPER TAB & ORGAN, LOWER TAB & ORGAN (SLOW/FAST)
	CELESTE	UPPER TAB & ORGAN, LOWER TAB & ORGAN
RHYTHM	RHYTHM	48 RHYTHMS (16 RHYTHMS×3 VARIATIONS) MARCH, COUNTRY, WALTZ 1, 2, SWING 1, 2, LATIN 1, 2, 8 BEAT, ROCK, 16 BEAT 1, 2, JAZZ ROCK, DISCO, TRAD 1, 2
	CONTROL	START/STOP, SYNCHRO & BREAK, INTRO & ENDING, FILL IN 1, 2, COUNT INTRO, TEMPO
	KEYBOARD PERCUSSION	39 KEYS
AUTO PLAY CHORD		AUTO PLAY CHORD (FINGERED 1, 2, MEMORY), DYNAMIC ACCOMP, ONE TOUCH PLAY, MUSIC STYLE SELECT, MUSIC STYLE ARRANGER
TECHNI-CHORD		○
VOICE SETTING COMPUTER		1~8
DISPLAY		LCD×2, CONTRAST (RIGHT)
DEMO		○
COMPOSER		5 TRACKS (PART: BASS, ACCOMP 1, 2, 3, DRUMS) STORAGE CAPACITY: APPROX. 1800 NOTES RECORDING MODE: REALTIME EDIT FUNCTIONS: COMPOSER CLEAR, BAR, BEAT, QUANTIZE, PERCUSSION ERASE

Technics

SEQUENCER	8 TRACKS (PART: UPPER, LOWER, BASS, CHORD, UPPER POLY, LOWER POLY, DRUMS, CONTROL) STORAGE CAPACITY: APPROX. 6000 NOTES RECORDING MODE: REAL TIME, STEP (CHORD, RHYTHM) EDIT FUNCTIONS: SONG CLEAR, TRACK CLEAR, TRACK ASSIGN
MIDI	CHANNEL, OCTAVE SHIFT, LOCAL CONTROL, VSC PROGRAM CHANGE, START/STOP, MIDI CLOCK, SONG SELECT, PROGRAM CHANGE MODE, NOTE ONLY, MIDI LOAD, MIDI OUT
CONTROL	VOLUME, TEMPO, PROGRAM, TRANSPOSE
EXTERNAL MEMORY	DIGITAL DISK RECORDER (INSTALLED)
TERMINALS	PHONES×2, LINE OUT (R/R+L, L), AUX IN (R/R+L, L), MIDI (IN, OUT, THRU)
OTHERS	POWER SWITCH, MAIN VOLUME, EXPRESSION PEDAL, FOOT SWITCH, KNEE LEVER

OUTPUT	150W
SPEAKERS	20cm×1, 16cm×2, DOME TWEETER×2, (13×6)cm×2
POWER REQUIREMENT	330W, 230VA (CANADA), 210W (USA AND MEXICO)
	AC120/220/240V 50/60 Hz AC120V 60 Hz (NORTH AMERICA AND MEXICO) AC230V 50/60 Hz (NEW ZEALAND AND EUROPE EXCEPT FOR UNITED KINGDOM)
DIMENSIONS (W×H×D)	122.3cm×121.4cm×60.1cm (48-5/32"×47-25/32"×23-21/32")
NET WEIGHT	84 kg (185.2 lbs.)

- Specifications are subject to change without notice for further improvement.

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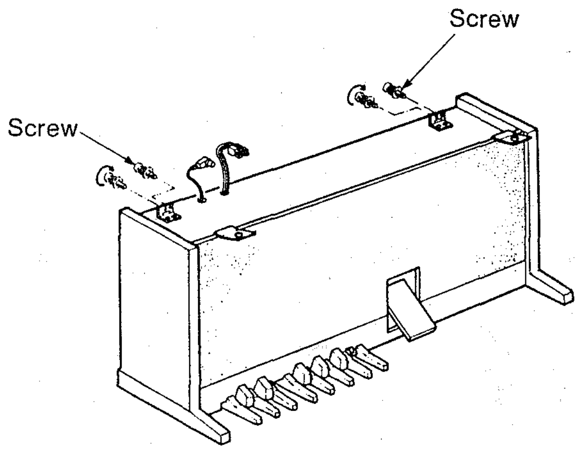
HOW TO ASSEMBLE THE ORGAN

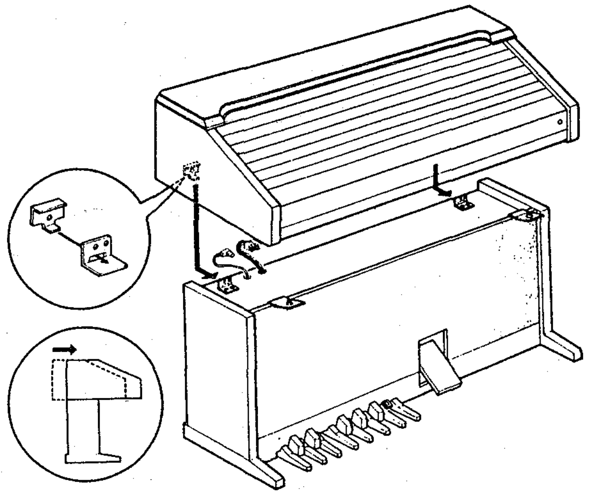
- To prevent the upper organ part from falling off the lower organ part, secure it firmly with the screws.

1 On the lower organ part, remove the four screws from the metal joints.
Lay the cords to the back of the lower organ part.



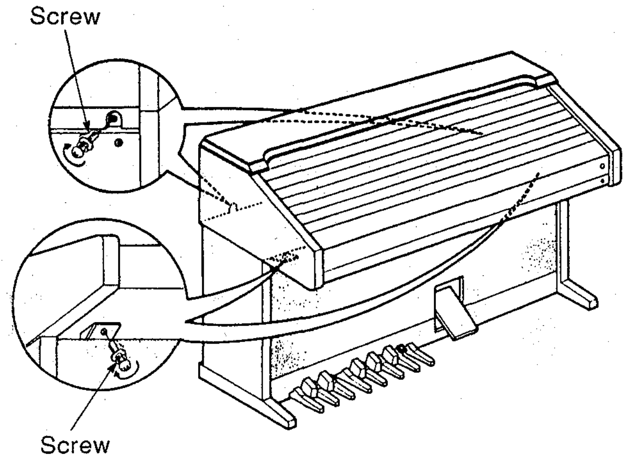
[Fig. 1]

2 Place the upper organ part on the lower organ part, making sure to fit the metal pieces together.



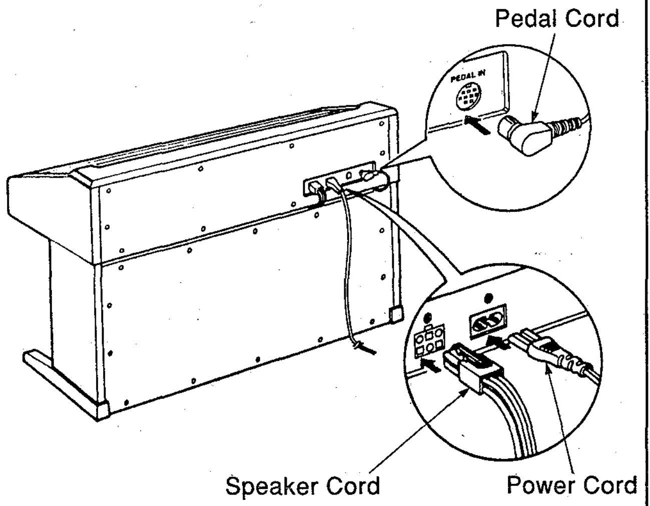
[Fig. 2]

3 Using the four screws removed in step 1, secure the upper organ part to the lower organ part as shown in the figure.



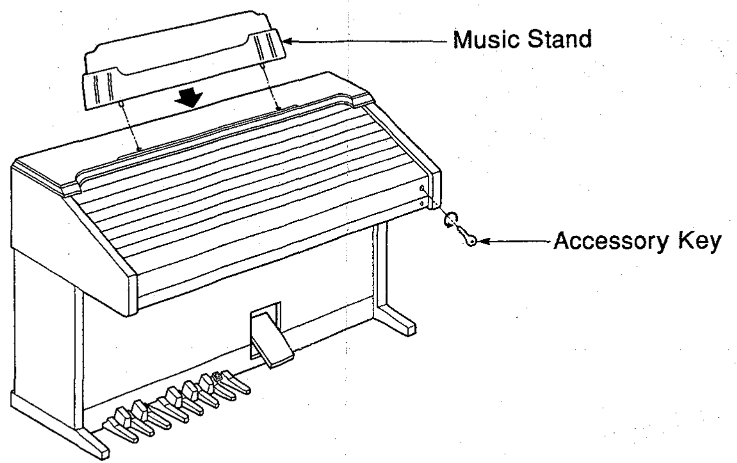
[Fig. 3]

4 Connect the power cord, speaker cord and pedal cord as shown.



[Fig. 4]

5 Insert the music stand as shown.
Unlock the cover with the accessory key.



[Fig. 5]

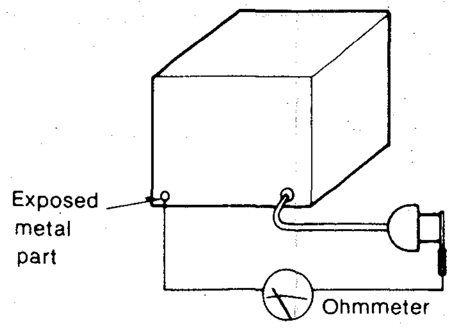
SAFETY PRECAUTION (This "safety precaution" is applied only in U.S.A.)

• Safety Precaution

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

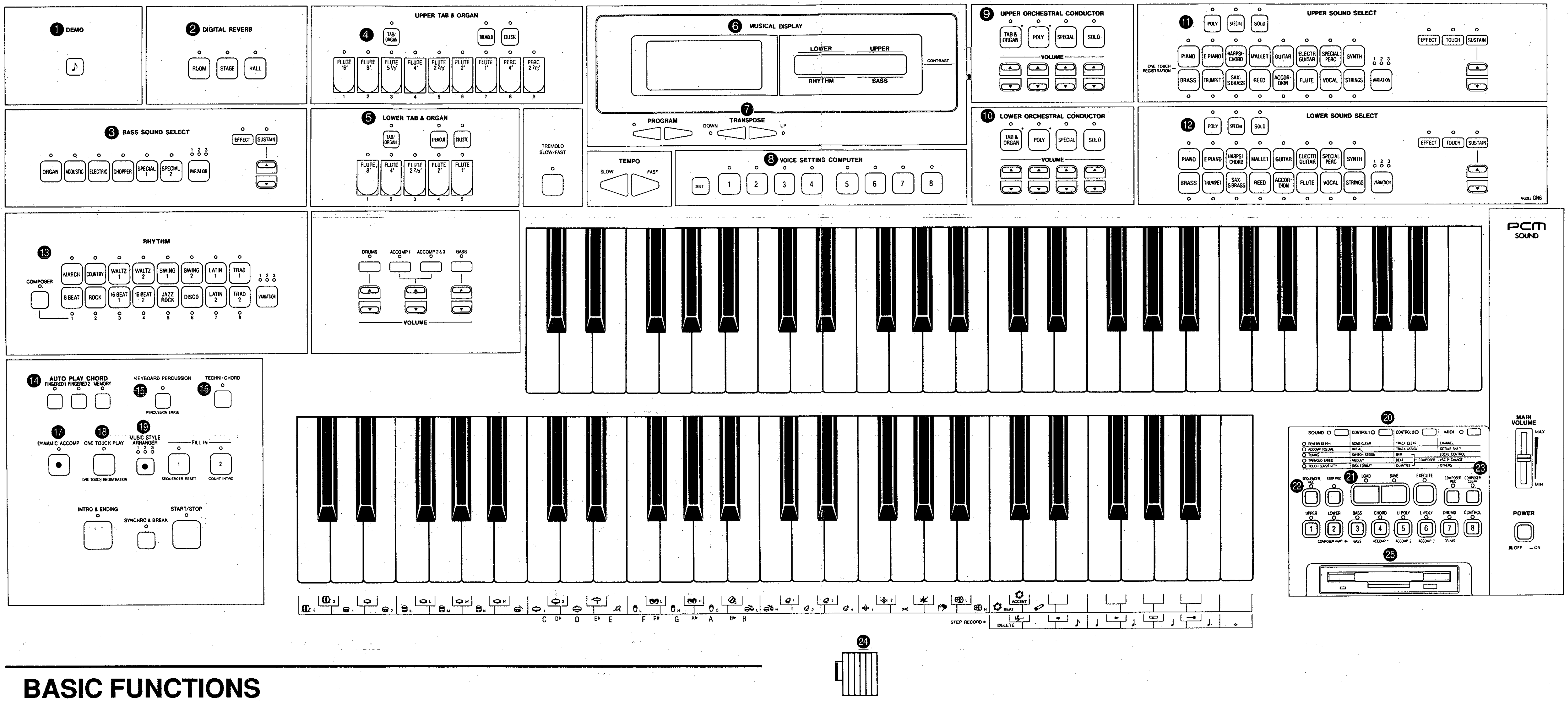
• Insulation Resistance Test

1. Unpulg the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screw heads, connectors, control shafts, handle brackets, etc..
   Mesurements should range from 4MΩ to infinity to all exposed parts.



Resistance = 4MΩ to ∞

ARRANGEMENT OF CONTROL PANEL



DEMO
DIGITAL REVERB
ROOM
STAGE
HALL
UPPER TAB & ORGAN
TAB/ORGAN
TREMOLO
CELESTE
FLUTE 16'
FLUTE 8'
FLUTE 5 1/3'
FLUTE 4'
FLUTE 2 2/3'
FLUTE 2'
FLUTE 1'
PERC 4'
PERC 2 2/3'
MUSICAL DISPLAY
LOWER
UPPER
RHYTHM
BASS
CONTRAST
PROGRAM
TRANSPOSE
DOWN
UP
UPPER ORCHESTRAL CONDUCTOR
TAB & ORGAN
POLY
SPECIAL
SOLO
VOLUME
UPPER SOUND SELECT
EFFECT
TOUCH
SUSTAIN
PIANO
E.PIANO
HARPSI-CHORD
MALLET
GUITAR
ELECTR GUITAR
SPECIAL PERC
SYNTH
BRASS
TRUMPET
SAX. S.BRASS
REED
ACCOR-DION
FLUTE
VOCAL
STRINGS
VARIATION
ONE TOUCH REGISTRATION
BASS SOUND SELECT
ORGAN
ACOUSTIC
ELECTRIC
CHOPPER
SPECIAL 1
SPECIAL 2
LOWER TAB & ORGAN
TREMOLO SLOW/FAST
TEMPO
SLOW
FAST
VOICE SETTING COMPUTER
SET
LOWER ORCHESTRAL CONDUCTOR
LOWER SOUND SELECT
MODEL GN6
RHYTHM
COMPOSER
MARCH
COUNTRY
WALTZ 1
WALTZ 2
SWING 1
SWING 2
LATIN 1
TRAD 1
8 BEAT
ROCK
16 BEAT 1
16 BEAT 2
JAZZ ROCK
DISCO
LATIN 2
TRAD 2
DRUMS
ACCOMP 1
ACCOMP 2 & 3
BASS
PCM SOUND
AUTO PLAY CHORD
FINGERED 1
FINGERED 2
MEMORY
KEYBOARD PERCUSSION
PERCUSSION ERASE
TECHNI-CHORD
DYNAMIC ACCOMP
ONE TOUCH PLAY
MUSIC STYLE ARRANGER
FILL IN
ONE TOUCH REGISTRATION
SEQUENCER RESET
COUNT INTRO
INTRO & ENDING
SYNCHRO & BREAK
START/STOP
SOUND
CONTROL 1
CONTROL 2
MIDI
SEQUENCER REC
STEP REC
LOAD
SAVE
EXECUTE
COMPOSER REC
COMPOSER CLEAR
UPPER
LOWER
BASS
CHORD
U.POLY
L.POLY
DRUMS
CONTROL
MAIN VOLUME
MAX
MIN
POWER
OFF
ON
C
D♭
D
E♭
E
F
F♯
G
A♭
A
B♭
B
STEP RECORD
DELETE
ACCENT
BEAT
1
2
3
4
5
6
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9
10
11
12
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24
25

BASIC FUNCTIONS

❶ **DEMO**
An automatic performance introduces you to the organ's sounds and rhythms.

❷ **DIGITAL REVERB**
Press one of the three **DIGITAL REVERB** buttons—**ROOM**, **STAGE** or **HALL**—to add the corresponding reverberation effect to the sound.

❸ **BASS SOUND SELECT**
Assign a **BASS** sound to the pedal keyboard. Each sound has three variations. Add charactor to the sound with the **EFFECT** and **SUSTAIN** buttons.

❹ **UPPER TAB & ORGAN**
Assign **FLUTE** sounds and an **ORGAN** sound to the upper keyboard **TAB & ORGAN** part. Add **TREMOLO** and **CELESTE** effects to the sound by turning on the respective buttons.

❺ **LOWER TAB & ORGAN**
Assign **FLUTE** sounds and an **ORGAN** sound to the lower keyboard **TAB & ORGAN** part. Add **TREMOLO** and **CELESTE** effects to the sound by turning on the respective buttons.

❻ **MUSICAL DISPLAY**
<Left display>
In the normal mode, the **MUSICAL DISPLAY** indicates the tempo of the rhythm, the beat and the name of the chord specified on the lower keyboard. When setting any of the various sound and memory functions, the corresponding display is shown.

<Right display>
In the normal mode, the **MUSICAL DISPLAY** indicates the sound currently selected on the **SOUND SELECT** and the currently selected rhythm. When the **ONE TOUCH PLAY/MUSIC STYLE SELECT** function is being used, the name of the style is shown.

❼ **TRANSPOSE**
C is the standard setting, but you can raise or lower the key of the entire instrument with these two buttons. The buttons are also used when making the settings for other functions.

❽ **VOICE SETTING COMPUTER**
Set up the sounds, effects and volumes for each part, and then store the settings in one of the eight memory buttons for instant recall as you play. You can expand the range of storable settings to include the rhythm selection, tempo settings and more.

⑨ **UPPER ORCHESTRAL CONDUCTOR**
Select the part to be played on the upper keyboard—**POLY**, **SPECIAL**, **SOLO**, **TAB & ORGAN**. When **TAB & ORGAN** is on, **FLUTE** or **ORGAN** sounds can be selected for the upper keyboard. The **VOLUME** buttons are used to regulate the volume balance of each upper keyboard part.

⑩ **LOWER ORCHESTRAL CONDUCTOR**
Select the part to be played on the lower keyboard—**POLY**, **SPECIAL**, **SOLO**, **TAB & ORGAN**. When **TAB & ORGAN** is on, **FLUTE** or **ORGAN** sounds can be selected for the lower keyboard. The **VOLUME** buttons are used to regulate the volume balance of each lower keyboard part.

⑪ **UPPER SOUND SELECT**
Assign the desired sound to each of the upper keyboard parts—**POLY**, **SPECIAL** and **SOLO**. Each sound has three variations. Add character to the sound with the **EFFECT**, **TOUCH** and **SUSTAIN** buttons.

⑫ **LOWER SOUND SELECT**
Assign the desired sound to each of the lower keyboard parts—**POLY**, **SPECIAL** and **SOLO**. Each sound has three variations. Add character to the sound with the **EFFECT**, **TOUCH** and **SUSTAIN** buttons.

⑬ **RHYTHM**
Choose from 16 preset automatic rhythms, each with three variations. An additional 8 memory locations are reserved for user-created rhythms. Other rhythm controls are **START/STOP**, **SYNCHRO & BREAK**, **INTRO & ENDING**, **COUNT INTRO**, and **FILL IN 1** and **2**. The volume is adjusted with the **DRUMS** buttons in the **VOLUME** section.

⑭ **AUTO PLAY CHORD**
This feature is activated when the **FINGERED 1** or **FINGERED 2** button is turned on. An automatic accompaniment appropriate for the selected rhythm is produced when you play a chord on the lower keyboard. **MEMORY** allows you to continue the accompaniment even after the chord keys are released. The volume for each part of the **AUTO PLAY CHORD** (**DRUMS**, **BASS**, **ACCOMP**) is adjusted with the respective buttons in the **VOLUME** section.

⑮ **KEYBOARD PERCUSSION**
One press of the **KEYBOARD PERCUSSION** button transforms your lower keyboard into a whole band of percussion instruments and special sounds. The keys are picture-coded for quick and easy selection.

⑯ **TECHNI-CHORD**
Chord notes played on the lower keyboard are added to the melody notes played on the upper keyboard. Choose from four harmony styles.

⑰ **DYNAMIC ACCOMP**
This feature automatically changes each accompaniment pattern of the **AUTO PLAY CHORD** depending on the type of performance.

⑱ **ONE TOUCH PLAY**
Select a rhythm and press the **ONE TOUCH PLAY** button until the panel settings change. The sounds and effects perfect for the selected rhythm are automatically set in seconds. Or use it as a **ONE TOUCH REGISTRATION** button to automatically match the lower and pedal keyboard settings to the selected upper keyboard sound.

⑲ **MUSIC STYLE ARRANGER**
A tap of a button during your performance changes the rhythm and sounds to a simpler or more complex arrangement to match the feeling of the music.

⑳ **Program section**
This matrix is used to select various functions in conjunction with making the sound settings, initializing the memories, recording a performance, creating an accompaniment pattern, using the Digital Disk Recorder and making the MIDI settings.

㉑ **STEP REC**
Store the chord progression for an entire song for automatic playback when you use the **AUTO PLAY CHORD**.

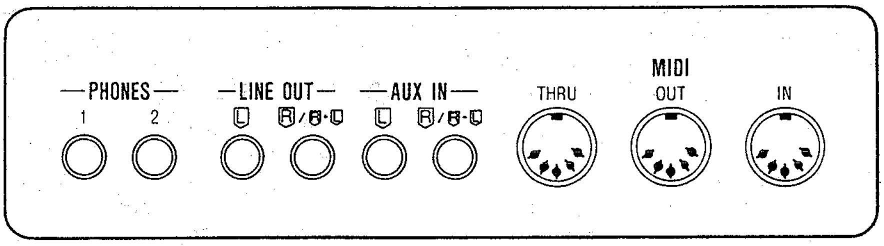
㉒ **SEQUENCER**
With this feature you can separately play and record the parts for an entire song. Then have the whole ensemble performance played back automatically.

㉓ **COMPOSER**
Create original rhythm patterns or modify preset rhythms. Store up to 8 new rhythms in the reserved memory locations and recall them as you play, just like the preset rhythms.

㉔ **Expression pedal/foot switch**
Control the volume of all the organ sounds as you play to add expression to the music. The foot switch on the side of the pedal is used as a glide control to lower the pitch of the organ by one half-tone, but you can assign one of various other functions to the foot switch.

㉕ **Digital Disk Recorder**
The Digital Disk Recorder allows you to store up to 20 sequencer performances on a 3.5-in. 2DD memory disk.

TERMINALS


PHONES
1
2
LINE OUT
L
R/R+L
AUX IN
L
R/R+L
MIDI
THRU
OUT
IN

(Beneath the right side of the keyboard)

PHONES
For silent practice, headphones (option) may be used. When plugged in, the speaker system is automatically switched off, and the sound is heard only through the headphones.

AUX IN (input level 0.5 Vrms, 33 kΩ)
Other instruments such as a sound generator can be connected to this terminal, and the sound will be output from the Organ's speakers. To receive monaural sound, connect the other instrument to the **R/R+L** terminal. (Do not connect the **L** terminal.)

LINE OUT (output level 1.5 Vrms, 600 Ω)
By connecting an external high-power amplifier, the sound can be reproduced at a high volume. To output monaural sound, connect the external equipment to the **R/R+L** terminal. (Do not connect the **L** terminal.)

MIDI
MIDI is standard specification that enables connection to equipment such as synthesizers and personal computers. Data transmission and reception are possible between the Technics organ and equipment provided with MIDI terminals.

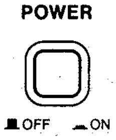
IN:	The terminal that receives data from external equipment.
OUT:	The terminal that transmits data from the organ to external equipment.
THRU:	The terminal that transfers data from the **IN** terminal directly to other equipment.

- Use a 5-pin DIN cord (less than 15m long) for these connections.

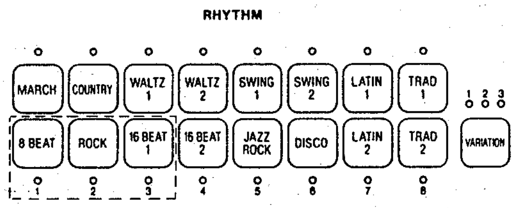
INITIAL SETTING

■ The initial setting function is used to return to the original factory settings, and to reset the customer settings and misoperations.

1. Press the **POWER** button to turn off the instrument.


POWER
OFF
ON

2. While pressing the three lower left buttons in the **RHYTHM** section at the same time, turn the **POWER** button on again.

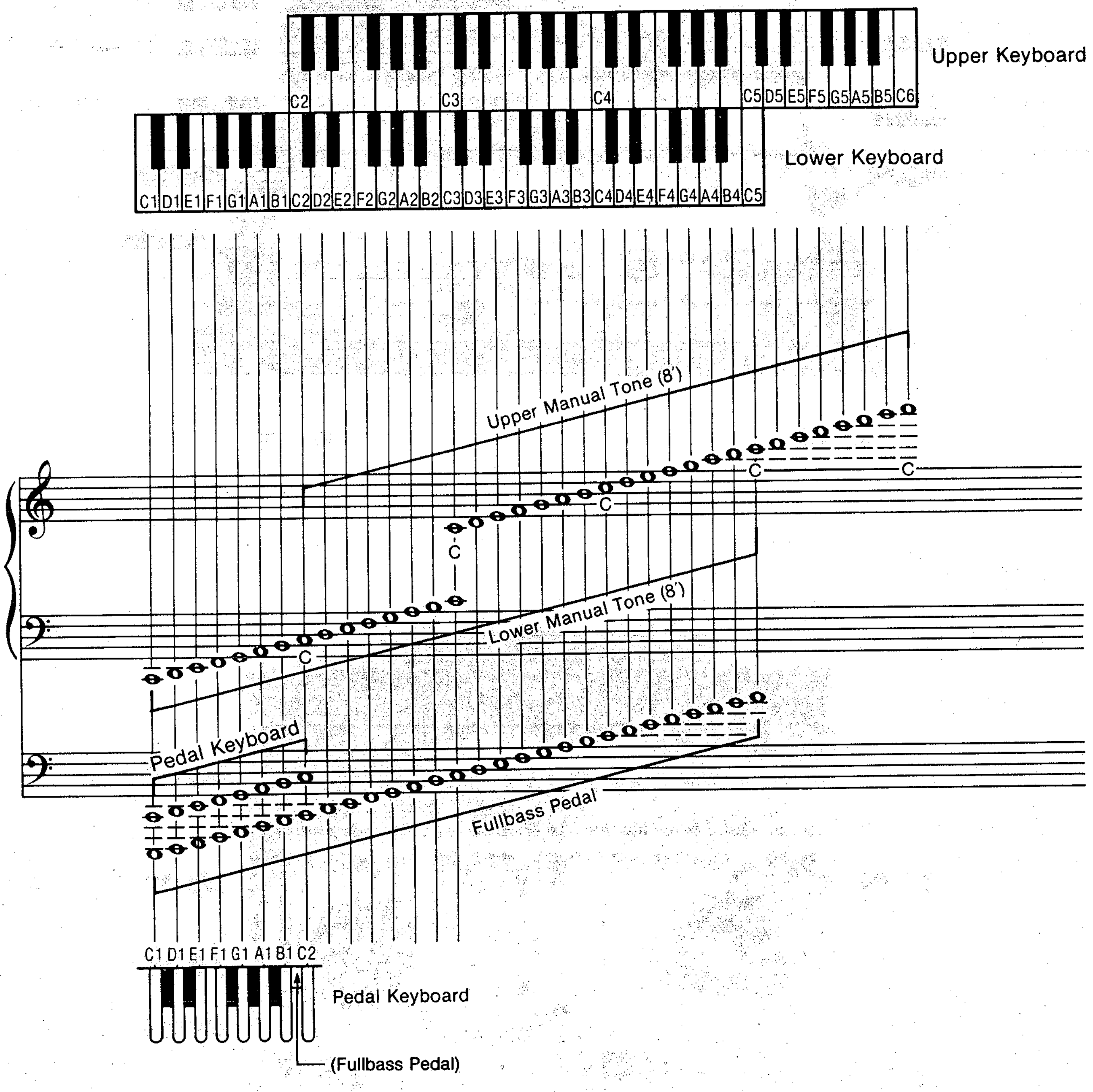

RHYTHM
MARCH
COUNTRY
WALTZ 1
WALTZ 2
SWING 1
SWING 2
LATIN 1
TRAD 1
8 BEAT
ROCK
16 BEAT 1
16 BEAT 2
JAZZ ROCK
DISCO
LATIN 2
TRAD 2
VARIATION
1 2 3
1 2 3 4 5 6 7 8

NOTE:
All stored data in the **SEQUENCER** and **COMPOSER** and other settings are initialized with this operation.

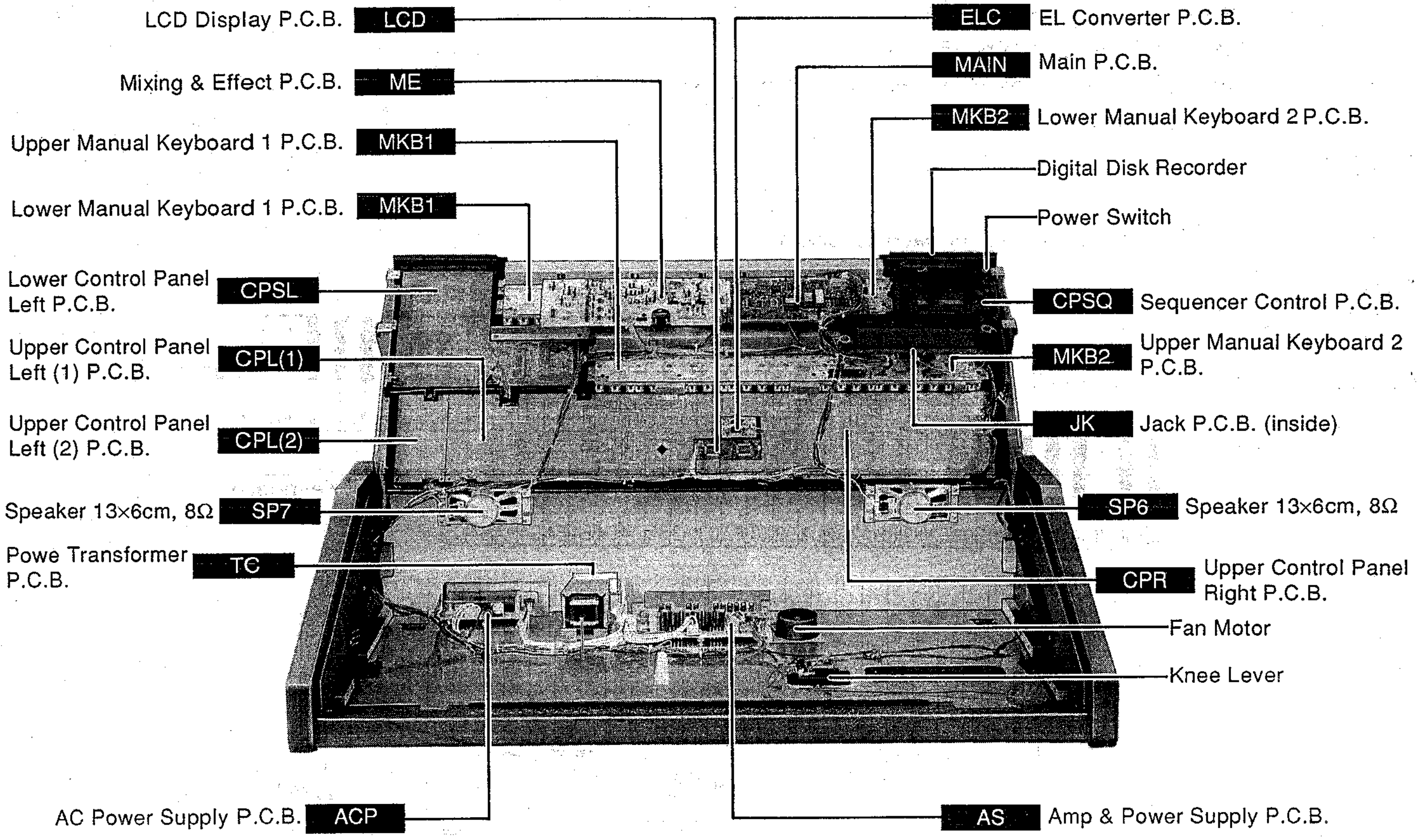
KEYBOARD RANGES

Upper Keyboard.............49 Keys (4 Octaves)
Lower Keyboard.............49 Keys (4 Octaves)
Pedal Keyboard..............13 Keys (1 Octave)+Fullbass Pedal

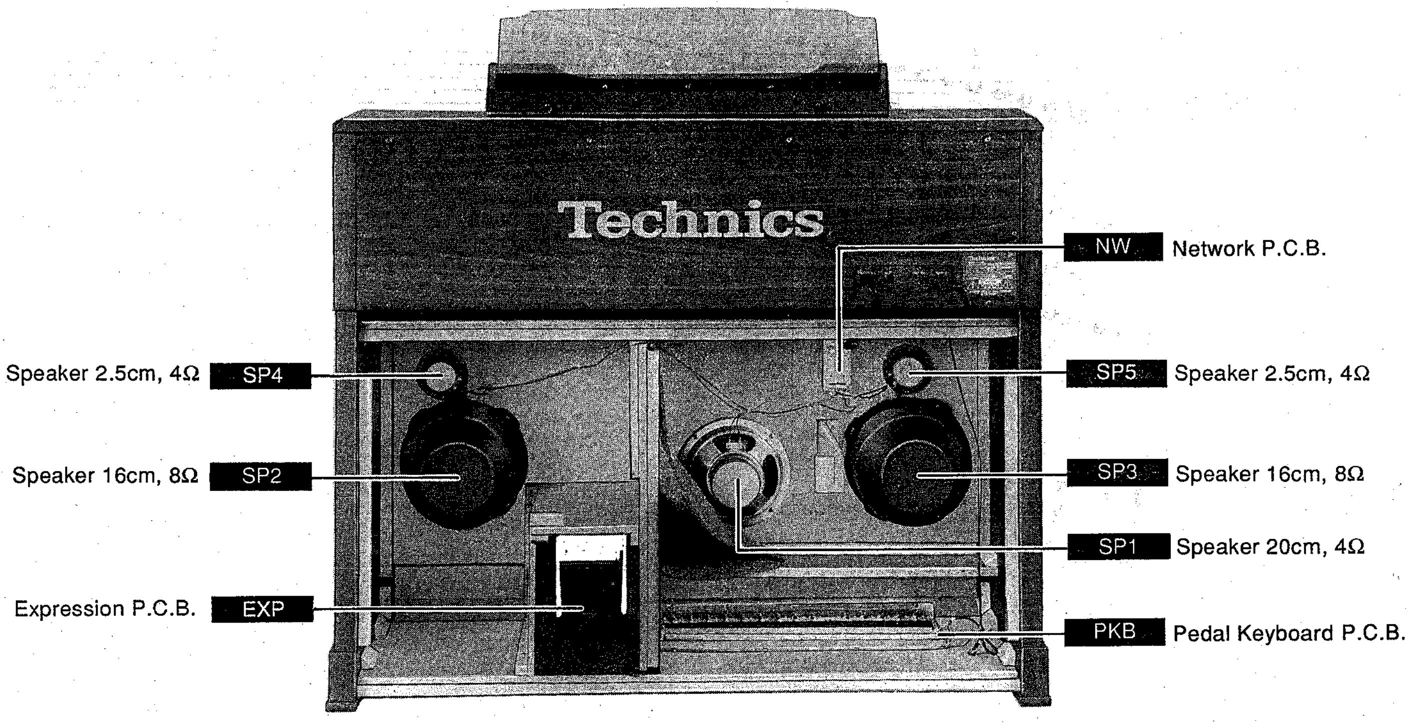
∗An 8-foot compass is used for each keyboard.


Upper Keyboard
C2
C3
C4
C5 D5 E5 F5 G5 A5 B5 C6
Lower Keyboard
C1 D1 E1 F1 G1 A1 B1 C2 D2 E2 F2 G2 A2 B2 C3 D3 E3 F3 G3 A3 B3 C4 D4 E4 F4 G4 A4 B4 C5
Upper Manual Tone (8′)
C
C
C
C
C
Lower Manual Tone (8′)
Pedal Keyboard
Fullbass Pedal
C1 D1 E1 F1 G1 A1 B1 C2
Pedal Keyboard
(Fullbass Pedal)

PARTS LOCATION


LCD Display P.C.B. LCD
Mixing & Effect P.C.B. ME
Upper Manual Keyboard 1 P.C.B. MKB1
Lower Manual Keyboard 1 P.C.B. MKB1
Lower Control Panel Left P.C.B. CPSL
Upper Control Panel Left (1) P.C.B. CPL(1)
Upper Control Panel Left (2) P.C.B. CPL(2)
Speaker 13×6cm, 8Ω SP7
Powe Transformer P.C.B. TC
AC Power Supply P.C.B. ACP
ELC EL Converter P.C.B.
MAIN Main P.C.B.
MKB2 Lower Manual Keyboard 2 P.C.B.
Digital Disk Recorder
Power Switch
CPSQ Sequencer Control P.C.B.
MKB2 Upper Manual Keyboard 2 P.C.B.
JK Jack P.C.B. (inside)
SP6 Speaker 13×6cm, 8Ω
CPR Upper Control Panel Right P.C.B.
Fan Motor
Knee Lever
AS Amp & Power Supply P.C.B.

[Photo-1]

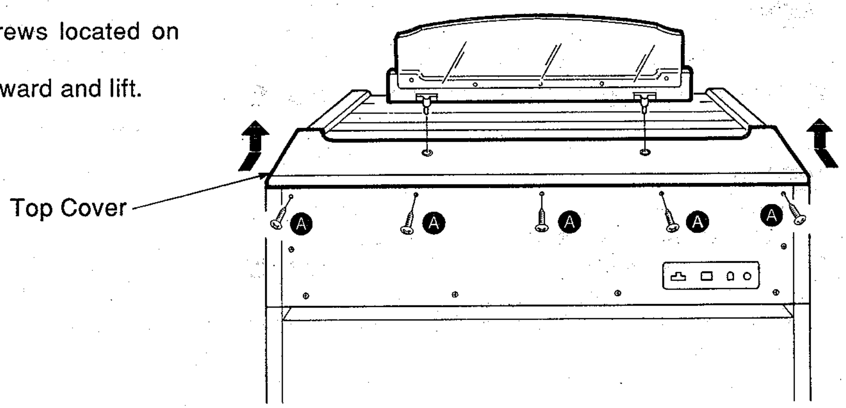

Technics
Speaker 2.5cm, 4Ω SP4
Speaker 16cm, 8Ω SP2
Expression P.C.B. EXP
NW Network P.C.B.
SP5 Speaker 2.5cm, 4Ω
SP3 Speaker 16cm, 8Ω
SP1 Speaker 20cm, 4Ω
PKB Pedal Keyboard P.C.B.

[Photo-2]

DISASSEMBLY INSTRUCTIONS

1 Removing the top cover

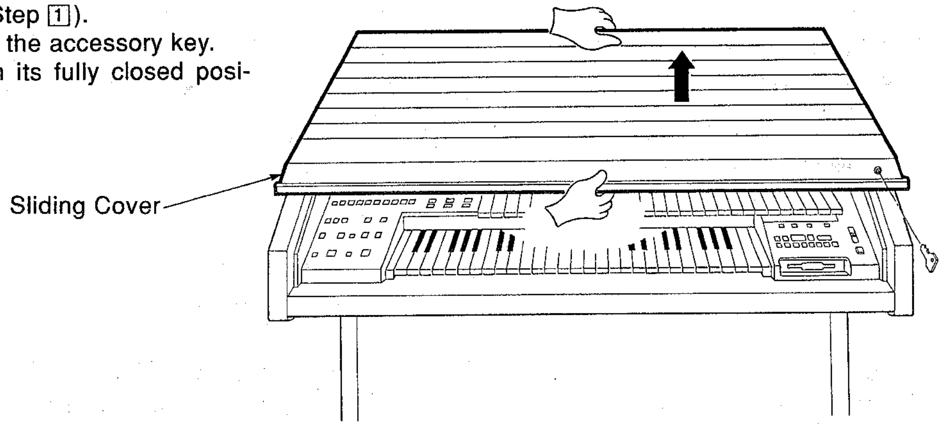
1. Remove the music stand.
2. Remove the top cover holding screws located on the rear board (Ⓐ 5 pcs.).
3. Remove the top cover, sliding it forward and lift.



[Fig. 6]

2 Removing the sliding cover

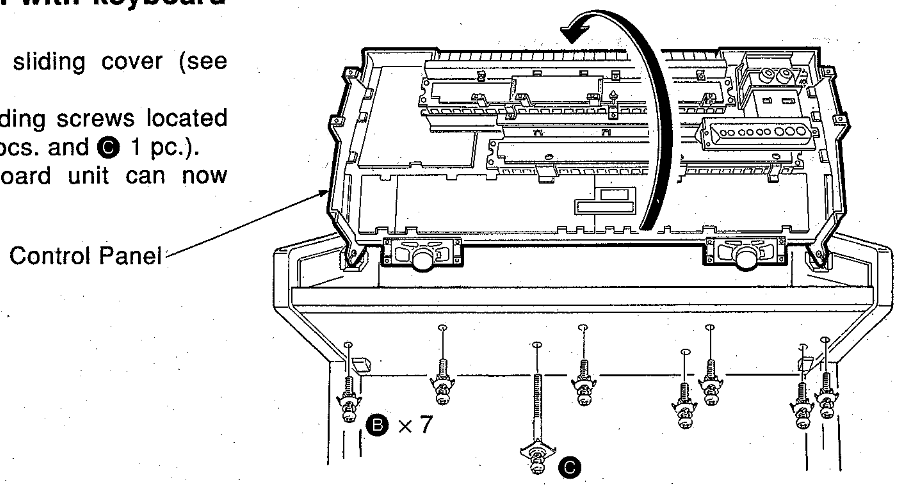
1. Remove the top cover (see Step 1).
2. Unlock the sliding cover with the accessory key.
3. Remove the sliding cover in its fully closed position.



[Fig. 7]

3 Opening the control panel with keyboard unit

1. Remove both top cover and sliding cover (see Steps 1 and 2).
2. Remove the control panel holding screws located under the upper cabinet (Ⓑ 7 pcs. and Ⓒ 1 pc.).
3. The control panel with keyboard unit can now opened upwards.



[Fig. 8]

4 Removing the ME and MAIN P.C.B.

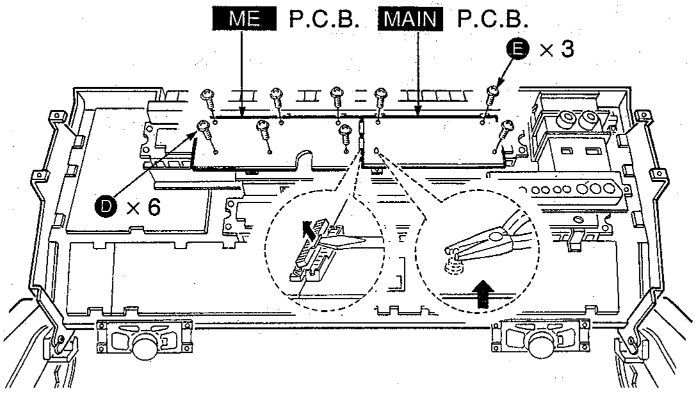
- Open the control panel with keyboard unit (see Step 3).

ME P.C.B.

1. Remove the connector which joins the 2 P.C.B.s with a screwdriver as shown in the figure.
2. Remove the ME P.C.B. mounting screws (Ⓓ 6 pcs.).

MAIN P.C.B.

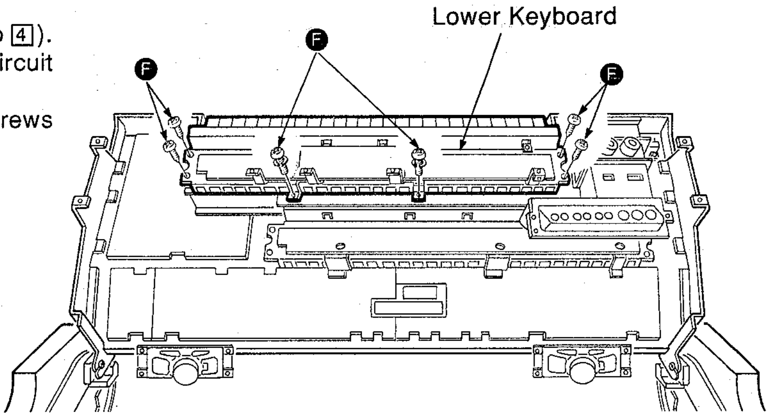
1. Remove the connector which joins the 2 P.C.B.s with a screwdriver as shown in the figure.
2. Remove the MAIN P.C.B. mounting screws (Ⓔ 3 pcs.).
3. Release the 1 claw of the P.C.B. holder to remove the MAIN P.C.B.



[Fig. 9]

5 Removing the lower keyboard

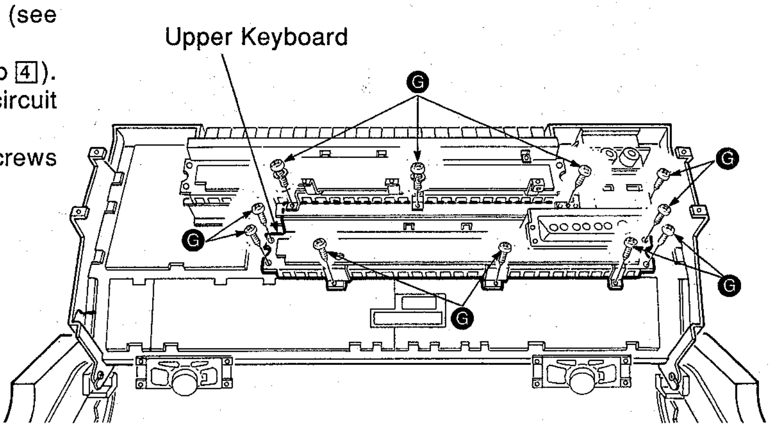
1. Open the control panel with keyboard unit (see Step 3).
2. Remove the ME and MAIN P.C.B. (see Step 4).
3. Remove the connectors on the printed circuit boards.
4. Remove the lower keyboard ass'y holding screws (Ⓕ 6 pcs.).
5. The lower keyboard ass'y can be removed.



[Fig. 10]

6 Removing the upper keyboard

1. Open the control panel with keyboard unit (see Step 3).
2. Remove the ME and MAIN P.C.B. (see Step 4).
3. Remove the connectors on the printed circuit boards.
4. Remove the upper keyboard ass'y holding screws (Ⓖ 11 pcs.).
5. The upper keyboard ass'y can be removed.

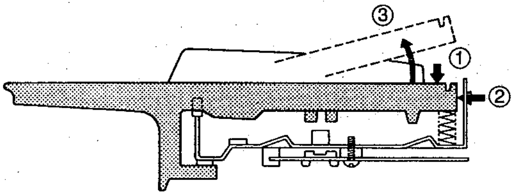


[Fig. 11]

7 Removing the key(s)

1. Remove the keyboard assembly (see Steps 5 and 6).
2. Press the rear of the key downward (Fig. 12-①).
3. Press the rear edge of the key while pressing the rear of the key downward (Fig. 12-②).
4. To remove the key, lift it as shown in Fig. 12-③.

NOTE:
If a black key is to be replaced it is necessary to remove both adjacent white keys.



[Fig. 12]

8 Removing the ACP and AS P.C.B.

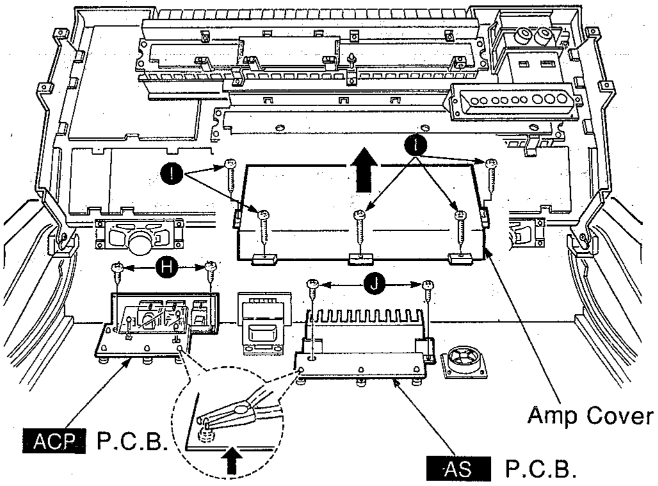
- Open the control panel with keyboard unit (see Step 3).

ACP P.C.B.

1. Remove the ACP P.C.B. mounting screws (🅗 2 pcs.).
2. Release the 4 claws of the P.C.B. holder to remove the ACP P.C.B.

AS P.C.B.

1. Remove the amp cover holding screws (🅘 5 pcs.) and lift the cover to remove it.
2. Remove the AS P.C.B. mounting screws (🅙 2 pcs.).
3. Release the 3 claws of the P.C.B. holder to remove the AS P.C.B.



[Fig. 13]

9 Removing the digital disk recorder (DDR)

1. Open the control panel with keyboard unit (see Step 3).
2. Remove the DDR holding screw (🅚 1 pc.).
3. Push the DDR from the window of the jack panel. Then the DDR can be removed.

10 Removing the JK and FDCN P.C.B.

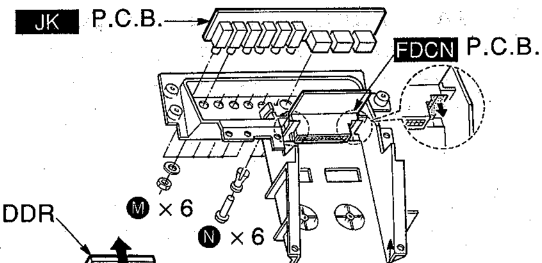
- Open the control panel with keyboard unit (see Step 3).

JK P.C.B.

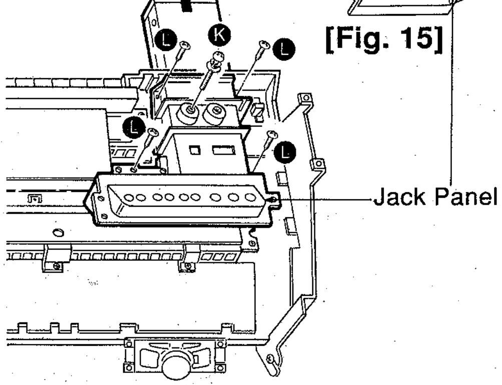
1. Remove the DDR (see Step 9).
2. Remove the jack panel mounting screws (🅛 4 pcs.). The jack panel can then be removed.
3. Remove the JK P.C.B. mounting nuts and latches (🅜 6 pcs. and 🅝 6 pcs.).

FDCN P.C.B.

1. Remove the jack panel by following the steps above.
2. Release the 2 claws holding the FDCN P.C.B. to remove it.



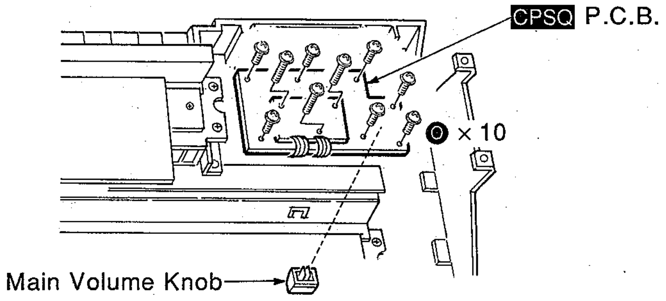
[Fig. 15]



[Fig. 14]

11 Removing the CPSQ P.C.B.

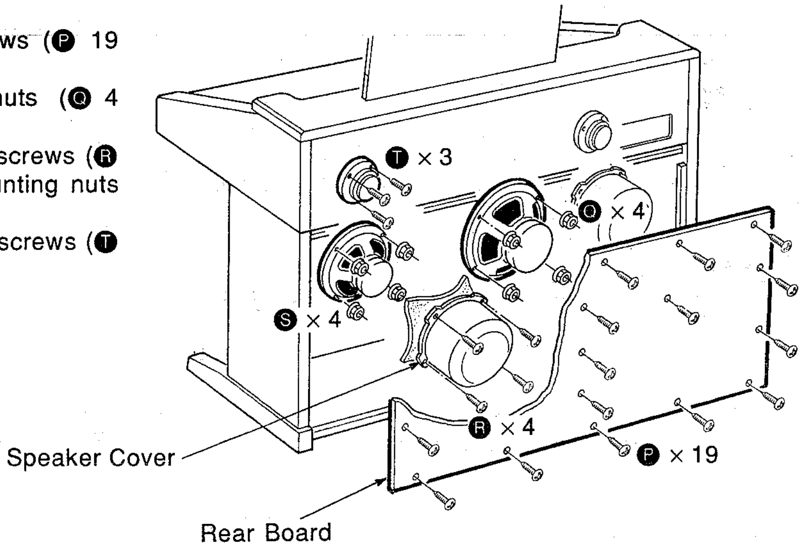
1. Open the control panel with keyboard unit (see Step 3).
2. Remove the jack panel (see Step 10).
3. Remove the CPSQ P.C.B. mounting screws (Ⓞ 10 pcs.).
4. Remove the Main volume knob.



[Fig. 16]

12 Removing the speakers

1. Remove the rear board mounting screws (Ⓟ 19 pcs.).
2. Remove the 20 cm speaker mounting nuts (Ⓠ 4 pcs.).
3. Remove the speaker covers mounting screws (Ⓡ 4 pcs. each) and 16 cm speakers mounting nuts (Ⓢ 4 pcs. each).
4. Remove the 2.5 cm speakers mounting screws (Ⓣ 3 pcs. each).



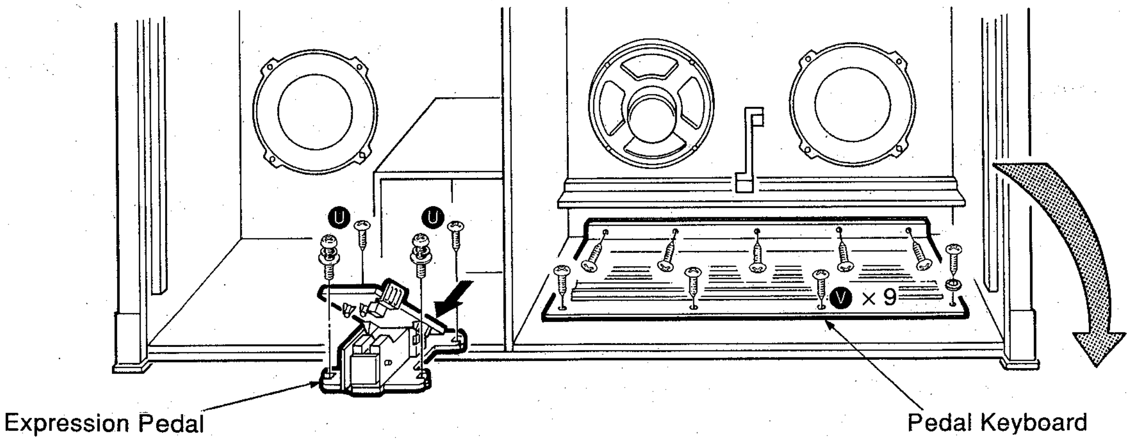
[Fig. 17]

13 Removing the expression pedal

1. Remove the rear board (see Step 12).
2. Remove the expression pedal mounting screws (Ⓤ 4 pcs.).
   The expression pedal can then be removed.

14 Removing the pedal keyboard

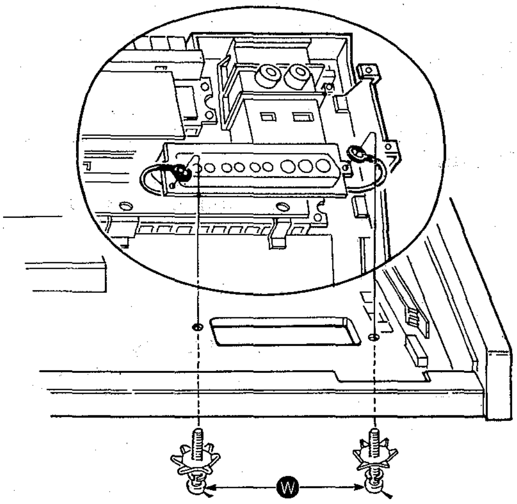
1. Remove the rear board (see Step 12).
2. Remove the pedal keyboard mounting screws (Ⓥ 9 pcs.).
3. Tilt the entire unit a little to toward to the rear very carefully for easier to take the pedal keyboard out from the bottom wood board.



[Fig. 18]

■ Important:
when closing the control panel

- When closing the control panel, make sure that the JK P.C.B. ground wire is in the position shown in Fig. 19 and affix it securely with screws (Ⓦ 2 pcs.).
- After tightening the screw, please confirm once more that the ground wire is in the proper position.

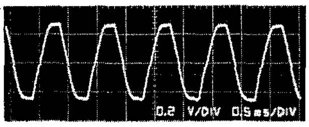
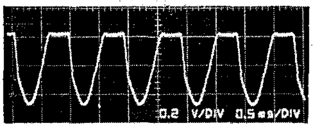


[Fig. 19]

MEASUREMENTS AND ADJUSTMENTS

■ *Measuring Equipment*

- Oscilloscope 20 MHz, 10:1 probe/1:1 probe

ADJUSTMENT	MEASURING CONDITIONS	EQUIPMENT	ADJUSTMENT P.C.B.	ADJ. POINT	CONNECT POINT(S)	READING
D/A Converter offset	any position	Oscilloscope	MAIN P.C.B.	VR1	Checkpoint Ⓐ	0V ±5 mV
	1. Set the oscilloscope voltage division to 5 mV/cm (Use the 1:1 oscilloscope probe) and connect the oscilloscope probe to MAIN P.C.B. Checkpoint Ⓐ. 2. Turn VR1 to adjust the voltage to zero.					
BBD Bias	any position	Oscilloscope and oscillator	ME P.C.B.	VR1	IC14-① pin	Photo-A
	1. Connect the oscilloscope to IC14-① pin of ME circuit board. 2. Input 1 kHz sine wave to IC17-③ pin by oscillator through capacitor of less than 50V 1µF. Then, adjust the output level of oscillator until the sine wave on the oscilloscope is clipped. 3. Adjust VR1 so that the output waveforms on the oscilloscope are evenly clipped at top and bottom. ○: Good  [A] ×: Fault  [B]					

ERROR DISPLAY

The following messages on the display indicate that a mistake has been made in using the functions.

Display	Remedy
oth Fd	The memory disk has not been formatted by the Digital Disk Recorder. • Insert a correctly formatted disk.
L Err	Loading failure. • Perform the loading procedure again.
no Fd	No memory disk in the Digital Disk Recorder. • Insert a memory disk.
no SnG	You have attempted to load a song number which has not been saved. • Load a song number which has been saved.
S Err	Saving failure. • Perform the saving procedure again.
Prt Er	The memory disk is write-protected. • Close the write-protect window of the disk.
Fd FUL	No remaining memory storage capacity. • Insert a new disk, and perform the save procedure after formatting it.
F Err	Formatting failure. • Perform the formatting procedure again.
P Err 1	You have attempted to save a song which is copy-protected. • A copy-protected song cannot be saved.

Warning:

- Some pre-recorded disks (for example, those recorded by the manufacturer) are copy-protected. Data from these disks cannot be copied.
- When the power is turned off after a copy-protected song has been loaded, the **SEQUENCER** contents will be erased.
- If a copy-protected song has been loaded and you want to then record a new song in the **SEQUENCER** and save it on a disk, be sure to first turn the power off once or perform the initialization procedure.

SYMPTOMS WHICH APPEAR TO BE SIGNS OF TROUBLE

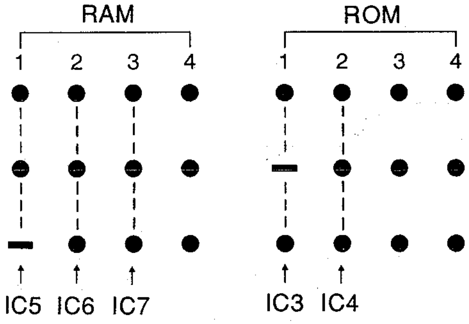
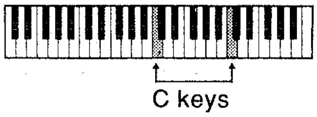
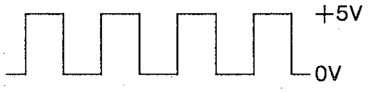
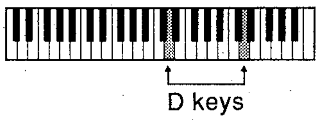
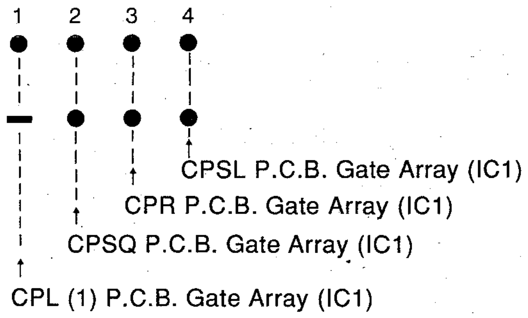
The following changes in performance may occur in the Technics Organ but do not indicate trouble.

Phenomenon		Remedy
Sounds and effects	The buttons, keys, etc. malfunction.	• Turn off the **POWER** button once, then turn it on again. If this procedure is not successful, turn off the **POWER** button once. Then, while pressing the three lower left buttons in the **RHYTHM** section at the same time, turn the **POWER** button on again. (Note that, in this case, all programmable settings, functions and memories return to their factory-preset status.)
	No sound is produced when the keys are pressed.	• The **MAIN VOLUME** is at the minimum setting. Adjust the volume with the **MAIN VOLUME** control. • The **DEMO** button is on. Press the **DEMO** button to turn it off. • The volumes for the selected parts are set to the minimum levels. Use the **VOLUME** buttons to set the volumes of the relevant parts to appropriate levels. • The **LOCAL CONTROL** for a part performed on the keyboard is set to OFF. Set the **LOCAL CONTROL** to on.
	No sound is produced when the pedal keyboard is played.	• The **BASS** button in the **VOLUME** section is off or the **BASS** volume is set to the minimum level. Turn the **BASS** button on, and use the **VOLUME** buttons to set the **BASS** volume to an appropriate level.
	Only percussive instrument sounds are produced when the lower keyboard is played.	• The **KEYBOARD PERCUSSION** button is on. Turn it off to return the keyboard to the normal sound.
	When the **TAB & ORGAN** is selected, it does not sound.	• If all the **FLUTE** and **PERC** buttons are off while the **TAB** (**FLUTE**) is selected, it does not sound. Turn on a **FLUTE** or **PERC** button to select the sound.
	The sound of the lower keyboard or pedal keyboard does not stop.	• This occurs if the lower keyboard is played when the **FINGERED 1** or **2** and the **MEMORY** buttons are on. Turn off the **MEMORY** button.
	The foot switch does not operate properly.	• Any function is storable in the foot switch. The default setting is for the glide control. Store your favorite function.
Rhythm	The rhythm does not start.	• The **DRUMS** button in the **VOLUME** section is off or the **DRUMS** volume is set to the minimum level. Turn the **DRUMS** button on, and use the **VOLUME** buttons to set the **DRUMS** volume to an appropriate level. • The **MIDI CLOCK** is set the external clock (ON). Set the **MIDI CLOCK** to the internal clock (OFF). • In the **RHYTHM** section, a **COMPOSER** number button with no stored pattern was selected. Change the rhythm or store a new rhythm pattern in the **COMPOSER**.
AUTO PLAY CHORD	No sound is produced for the automatic accompaniment, or only the sounds of some parts are produced.	• An **ACCOMP** part does not sound if the corresponding button in the **VOLUME** section (**ACCOMP 1** or **ACCOMP 2&3**) is off or if the corresponding volume is set to the minimum level. Turn the **ACCOMP 1** or **ACCOMP 2&3** button on, and use the **VOLUME** buttons to set the **ACCOMP** part volume to an appropriate level.
	No sound is produced for the automatic accompaniment.	• In the **RHYTHM** section, a **COMPOSER** number button with no stored pattern was selected. Change the rhythm or store a new rhythm pattern in the **COMPOSER**.

	Phenomenon	Remedy
SEQUENCER	Storage is not possible.	• The remaining memory capacity of the **SEQUENCER** is 0. Follow the **SONG CLEAR** or **TRACK CLEAR** procedure to erase the memory.
	Multi-track storage is not possible.	• The playback track has been selected, but the **START/STOP** button has not been pressed. A flashing track indicator shows the track which is ready for recording, and a lit track indicator shows a track which is ready for playback. To record one track while listening to another (playback) track, press the **START/STOP** button to begin playback.
COMPOSER	Storage is not possible.	• The remaining memory capacity of the **COMPOSER** is 0. Erase a different **COMPOSER** number button in the **RHYTHM** section in which a pattern is stored.
	Setting the time signature and number of measures is not possible.	• The time signature and number of measures cannot be changed for a pattern which is currently recorded in the **COMPOSER**. If you wish to change the time signature and/or measure data, first follow the procedure to clear the memory.
	The playback timing of the rhythm pattern is different from the timing with which it was recorded.	• The **QUANTIZE** function was on when the pattern was recorded and the timing was automatically corrected. Set the **QUANTIZE** level to a smaller note unit or to OFF when recording.
Digital Disk Recorder	The Digital Disk Recorder produces a noise during recording or playback.	• This occurs when the Digital Disk Recorder is reading a disk. It does not indicate a problem.
	When the procedure to load from a memory disk is performed, the contents of the **SEQUENCER** memory are erased.	• When performing the load operation from a memory disk, the **SEQUENCER** memory changes to that of the data loaded from the memory disk. If you wish to preserve a song which is stored in the **SEQUENCER** memory, save it in a memory disk before performing the load procedure.

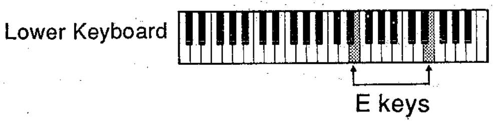
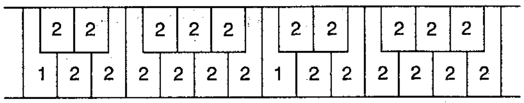
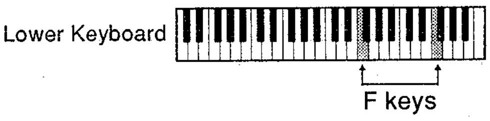
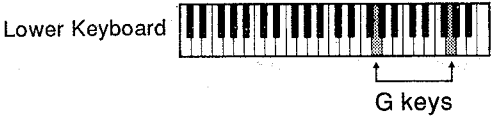
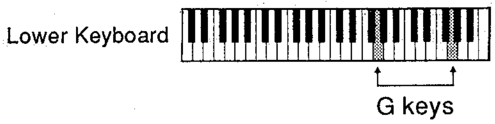
ABOUT THE SELF-DIAGNOSTIC FUNCTION

This model has some self-diagnostic capabilities. When set to the self-diagnostic mode, operation of various components can be verified by following the procedures in the chart below. Use the lower keyboard.

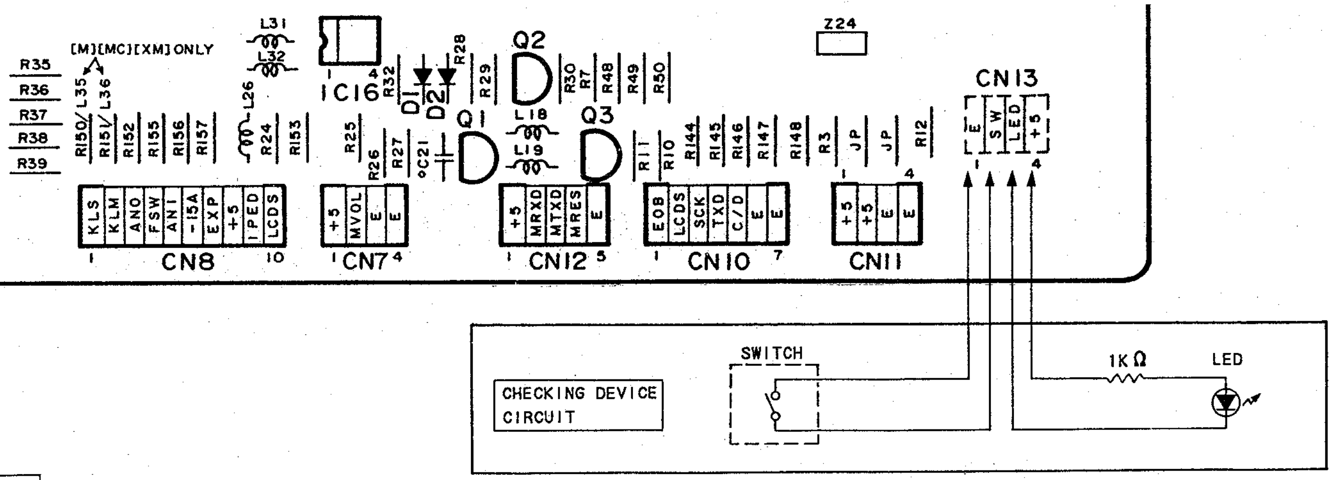
<table>
<tr><th>No.</th><th>PCB</th><th>TEST MODE</th><th>Procedure</th></tr>
<tr><td rowspan="2">1</td><td rowspan="2">MAIN</td><td>RAM (IC5, 6, 7), ROM (IC3, 4) check</td><td>1. Connect the CHECKING DEVICE (refer to page I-19) to CN13 on the MAIN P.C.B., and turn on the CHECKING DEVICE switch.
2. Turn on the power switch.</td></tr>
<tr><td colspan="2">When the power switch is turned on, the LED of the CHECKING DEVICE flashes 8 times. The first 4 flashes are for the RAM check, and the latter 4 flashes are for the ROM check. The order of the LED flashes corresponds to the respective IC numbers as shown below. If an IC is defective, the corresponding flash time is longer.
Examples
1. RAM OK, ROM OK →
2. RAM OK, ROM (IC3) defective →
3. RAM (IC5) defective, ROM OK →

Note: ● indicates short flash time= OK
▬ indicates long flash time = Defective</td></tr>
<tr><td rowspan="2">2</td><td rowspan="2">MAIN</td><td>V25 gate array (IC2) check</td><td>While pressing two C keys simultaneously, turn on the power switch.
Lower Keyboard  </td></tr>
<tr><td colspan="2">Monitor pins 45~48 (DL7~DL4) of IC2 on an oscilloscope, and check whether incremental data (see figure) is output.
 </td></tr>
<tr><td rowspan="2">3</td><td rowspan="2">CPL (1)
CPR
CPSQ
CPSL</td><td>Control panel gate array check.</td><td>1. Connect the CHECKING DEVICE to CN13 on the MAIN P.C.B. (The Checking Device switch should be off.)
2. While pressing two D keys simultaneously, turn on the power switch.
Lower Keyboard  </td></tr>
<tr><td colspan="2">When the power switch is turned on, the LED of the CHECKING DEVICE flashes 4 times. The order of the LED flashes corresponds to the gate arrays (IC) on the respective P.C.B.s as shown below. If an IC is defective, the corresponding flash time is longer.
1. OK →
2. CPL (1) Gate Array defective →


1 2 3 4
CPSL P.C.B. Gate Array (IC1)
CPR P.C.B. Gate Array (IC1)
CPSQ P.C.B. Gate Array (IC1)
CPL (1) P.C.B. Gate Array (IC1)

Note: ● indicates short flash time= OK
▬ indicates long flash time = Defective</td></tr>
</table>

No.	PCB	TEST MODE	Procedure
4	MAIN	Wave ROM (IC11, 12) check	While pressing two E keys simultaneously, turn on the power switch.  Lower Keyboard E keys
		When set to the self-diagnostic mode, the Wave ROM outputs a sine wave. The Wave ROMs correspond to the keyboard keys as shown in the diagram to the right. When a key is pressed, the corresponding sine wave sound is produced. If no sound is produced, or if the sound is distorted, the Wave ROM corresponding to that key is defective.	• The key number indicates the Wave ROM number (ROM 1: IC11, ROM 2: IC12).  2 2 2 2 2 2 2 2 2 2 1 2 2 2 2 2 2 1 2 2 2 2 2 2
5	CPL, CPR CPSQ	LED & SW check	While pressing two F keys simultaneously, turn on the power switch.  Lower Keyboard F keys
		LED check: Confirm that all the LEDs light.(All the LEDs turn off after lighting once.) SW check: Confirm that the respective LED lights when each button is pressed.	
6	CPL (1)	LCD (Right) Display check	While pressing two G keys simultaneously, turn on the power switch.  Lower Keyboard G keys
		When set to the self-diagnostic mode, the test pattern is shown on the display. Monitor the display to confirm that the characters appear correctly. Examples: 00000_0 → 11111_1 → 22222_2 - - - - - - - - - - - - - 88888_8 → 99999_9	
	LCD	LCD (Left) Display check	While pressing two G keys simultaneously, turn on the power switch.  Lower Keyboard G keys
		The test pattern for the LCD character display is shown. There are 4 different test patterns, which are selected with the TRANSPOSE buttons. Only the first display of the test pattern display differs, as shown below. Confirm that the characters appear correctly. Pattern 1 ♩ ▁ ▂ ▃ ▄ ▅ ▆ ▇ ♩ ▁ ▂ ▃ ▄ ▅ ▆ ▇ Pattern 2 ♩ ♪ 𝅘𝅥𝅯 𝅘𝅥𝅰₃ ▶ ◀ █ ♩ ♪ 𝅘𝅥𝅯 𝅘𝅥𝅰₃ ▶ ◀ █ Pattern 3 ♩ ▶ ◀][ ] [█ ♩ ▶ ◀][ ] [█ Pattern 4 ♩ ☰ ☰ ∘ 𝅗𝅥 ♪ 𝄽 𝄾 ♩ ☰ ☰ ∘ 𝅗𝅥 ♪ 𝄽 𝄾	

■ Connection between serving CHECKING DEVICE and MAIN PCB


[M][MC][XM] ONLY
R35
R36
R37
R38
R39
R150/L35
R151/L36
R152
R155
R156
R157
L31
L32
L26
R24
R153
IC16
R25
R26
R27
R32
R28
D1
D2
R29
C21
Q1
Q2
L18
L19
R30
R7
R48
R49
R50
Q3
R11
R10
R144
R145
R146
R147
R148
R3
JP
JP
R12
Z24
CN13
E
SW
LED
+5
KLS
KLM
ANO
FSW
ANI
-15A
EXP
+5
IPED
LCDS
CN8
+5
MVOL
E
E
CN7
+5
MRXD
MTXD
MRES
E
CN12
EOB
LCDS
SCK
TXD
C/D
E
E
CN10
+5
+5
E
E
CN11
SWITCH
CHECKING DEVICE CIRCUIT
1KΩ
LED

MIDI IMPLEMENTATION CHART

Organ [SX-GN6] **(Transmitted)**

Function		UPPER POLY, SPECIAL, SOLO	LOWER POLY, SPECIAL, SOLO	ACCOMP 1, 2, 3	BASS	DRUMS	CONTROL	Remarks
Basic Channel	Default	1–16	1–16	1–16	1–16	1–16	1–16	memorized
	Changed	1–16	1–16	1–16	1–16	1–16	1–16	
Mode	Default	3	3	3	3	3	3	OMNI OFF, POLY MODE
	Messages	×	×	×	×	×	×	
	Altered	—	—	—	—	—	—	
Note Number		0–127	0–127	0–127	0–127	0–127	—	Changes depending on the position of the transpose control and octave shift.
	True voice	—	—	—	—	—	—	
Velocity	Note ON	○	○	○*	○*	○	—	
	Note OFF	× (9nH:v=0)	× (9nH:v=0)	× (9nH:v=0)	× (9nH:v=0)	× (9nH:v=0)	—	
After Touch	Key's	×	×	×	×	×	×	
	Ch's	×	×	×	×	×	×	
Pitch Bender		○*	○*	○*	○*	×	×	
Control Change	1	○*	○*	○*	○*	×	×	modumation
	7	○	○	○	○	○	○	volume (main volume)
	11	×	×	×	×	×	○	expression pedal
	64	○	○	○	○	×	×	sustain
	80	×	○**	×	×	×	×	auto play chord
	82	×	×	×	×	○	×	intro, fill in, ending
	92	○**	○**	×	×	×	×	tremolo
	94	○	○	○	○	×	×	effect
Prog Change		○	○	○	○	○	×	
	True #	—	—	—	—	—	—	
System exclusive		×						
System common	Song Pos	×						
	Song Sel	○×						0–19
	Tune	×						
System Real Time	Clock	○						
	Commands	○×						start/stop, continue
Aux Messages	Local ON/OFF	×	×	×	×	×	—	
	All notes OFF	○	○	○	○	○	—	
	Active Sense	○						
	Reset	×						
Notes		*○........................AUTO PLAY CHORD or SEQUENCER PLAY only **○........................POLY part only ○×........................Whether or not the data for each of these items is tranmitted can be set.						

Mode 1: OMNI ON, POLY **Mode 2:** OMNI ON, MONO ○: Yes

Mode 3: OMNI OFF, POLY **Mode 4:** OMNI OFF, MONO ×: No

Organ [SX-GN6] **(Recognized)**

Function		UPPER POLY, SPECIAL, SOLO	LOWER POLY, SPECIAL, SOLO	ACCOMP 1, 2, 3	BASS	DRUMS	CONTROL	Remarks
Basic Channel	Default	1–16	1–16	1–16	1–16	1–16	1–16	memorized
	Changed	1–16	1–16	1–16	1–16	1–16	1–16	
Mode	Default	3	3	3	3	3	3	OMNI OFF, POLY MODE
	Messages	×	×	×	×	×	×	
	Altered	—	—	—	—	—	—	
Note Number		0–127	0–127	0–127	0–127	0–127	—	Changes depending on the position of the transpose control and octave shift.
	True voice	0–127	0–127	0–127	0–127	48–81	—	
Velocity	Note ON	○	○	○	○	○	—	
	Note OFF	×	×	×	×	×	—	
After Touch	Key's	×	×	×	×	×	×	
	Ch's	×	×	×	×	×	×	
Pitch Bender		○	○	○	○	×	×	
Control Change	1	○	○	○	○	×	×	modulation
	7	○	○	○	○	○	○	volume (main volume)
	11	×	×	×	×	×	○	expression pedal
	64	○	○	○	○	×	×	sustain
	80	×	○**	×	×	×	×	*auto play chord*
	82	×	×	×	×	○	×	intro, fill in, ending
	92	○**	○**	×	×	×	×	tremolo
	94	○	○	○	○	×	×	effect
Prog Change		○	○	○	○	○	×	
	True #	0–15	0–15	0–15	0–5	0–23	—	
System exclusive		×						
System common	Song Pos	×						
	Song Sel	○×						0–19
	Tune	×						
System Real Time	Clock	○						
	Commands	○×						start/stop, continue
Aux Messages	Local ON/OFF	×	×	×	×	×	—	
	All notes OFF	○	○	○	○	○	—	
	Active Sense	○						
	Reset	×						
Notes		*○........................AUTO PLAY CHORD pattern only **○ ....POLY part only ○× ....Whether or not the data for each of these items is received can be set.						

Mode 1: OMNI ON, POLY **Mode 2:** OMNI ON, MONO ○: Yes
Mode 3: OMNI OFF, POLY **Mode 4:** OMNI OFF, MONO ×: No

PRECAUTIONS BEFORE SERVICING

■ Precautions for measuring of the output waveforms.

1. Set to the INITIAL mode before measurement (refer to page I-7). After INITIAL mode, set the measurement conditions as each check points.
2. The waveform was measured with a "National Digital Storage Oscilloscope VP-5730A". Therefore the waveforms of musical tone signals shown may differ somewhat due to the difference in the timing of triggering.
3. Since the 1/10 test probe is used, the indicated voltage value on the bottom part of each waveform photo is 1/10 of the actual value (e.g. 0.2V/cm should be 2.0V/cm).

■ Important safety notice:

Components identified by a ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

■ Symbolic Marks

The symbolic marks for resistors and capacitors which used in this circuits are classified as following TABLE-1 and TABLE-2.

1. RESISTORS
   - Resistors without symbolic mark are FIXED CARBON FILM RESISTORS (ERD-type).
   - All resistors are 1/4WATT, ±5% TOLERANCE unless otherwise designated in the schematic diagrams.

(TABLE-1)

SYMBOL	SPECIFICATION	SYMBOL	SPECIFICATION
Ⓕ	Fixed Carbon Film Resistors "FLAME-PROOF" (ERD—F—type)	Ⓕ	**Fixed Metal Film Resistors "FLAME-PROOF" (ERX—type)**
Ⓕ	Fixed Wire Wound Resistors "FLAME-PROOF" (ERF—type)	🄵	**Fuse Type Fixed Metal Oxide Film Resistors "FLAME-PROOF" (ERQ—type)**
Ⓕ	Fixed Metal Oxide Film Resistors "FLAME-PROOF" (ERG—type)	🄵	**Fuse Type Fixed Carbon Film Resistors "FLAME-PROOF" (ERD2FC—type)**
Ⓖ	Fixed Metal Film Resistors (Precision and High Stability) (ERO—type)		

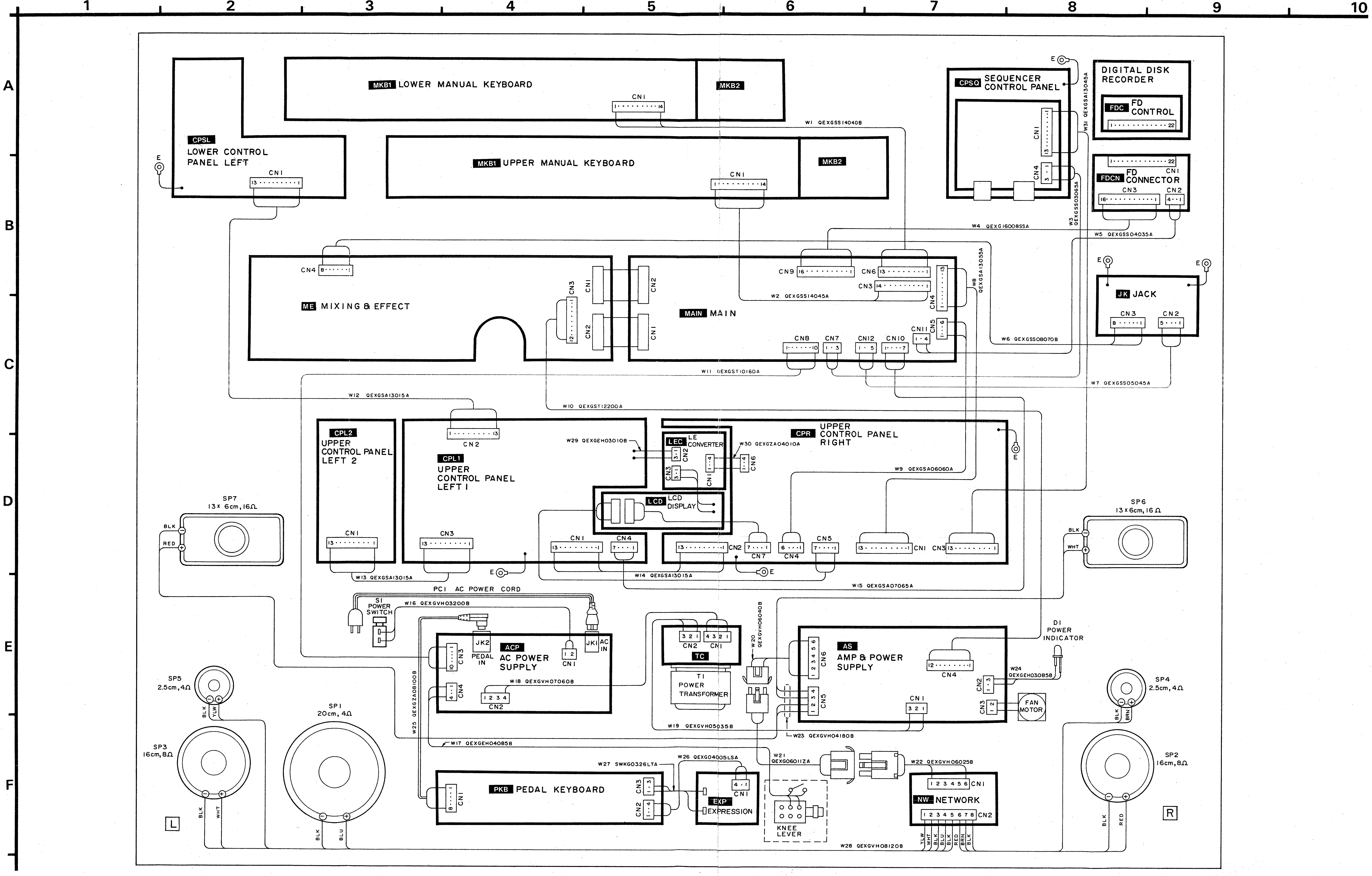
2. CAPACITORS
   - Capacitors without symbolic mark are PLASTIC FILM CAPACITORS. (ECQ-type)
   - Polarized capacitors without symbolic mark are Aluminum Electrolytic Capacitors. (ECEA—type, ±20% Tolernace)

(TABLE-2)

SYMBOL	SPECIFICATION	TYPE
Ⓝ	Non-Polarized Electrolytic Capacitors	ECEA_KN_type
Ⓨ	Non-Polarized Electrolytic (for Network System)	ECEA_Y_type
(MS)	Aluminum Electrolytic Capacitors (Low leakage current type)	ECEA_M_type
Ⓩ	Aluminum Electrolytic Capacitors (Low impedance type)	ECEA_Z_type
Ⓣ	Tantalum Solid Electrolytic Capacitors	ECS_type
○	Temperature Compensating Ceramic Capacitors	ECC_type
	High-Dielectric Constant Ceramic Capacitors	ECK_type ECR_type
	Ceramic Capacitors (Cylinder type)	ECBA_type
	Metalized Polyester Film Capacitors for Across the Line	ECQ_EW_type
	Aluminum Electrolytic Capacitors for Smoothing Circuit	ECES_type
	Multilayer Ceramic Chip Capacitors	ECUV_type

MEMO

WIRING CONNECTION DIAGRAM


1
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3
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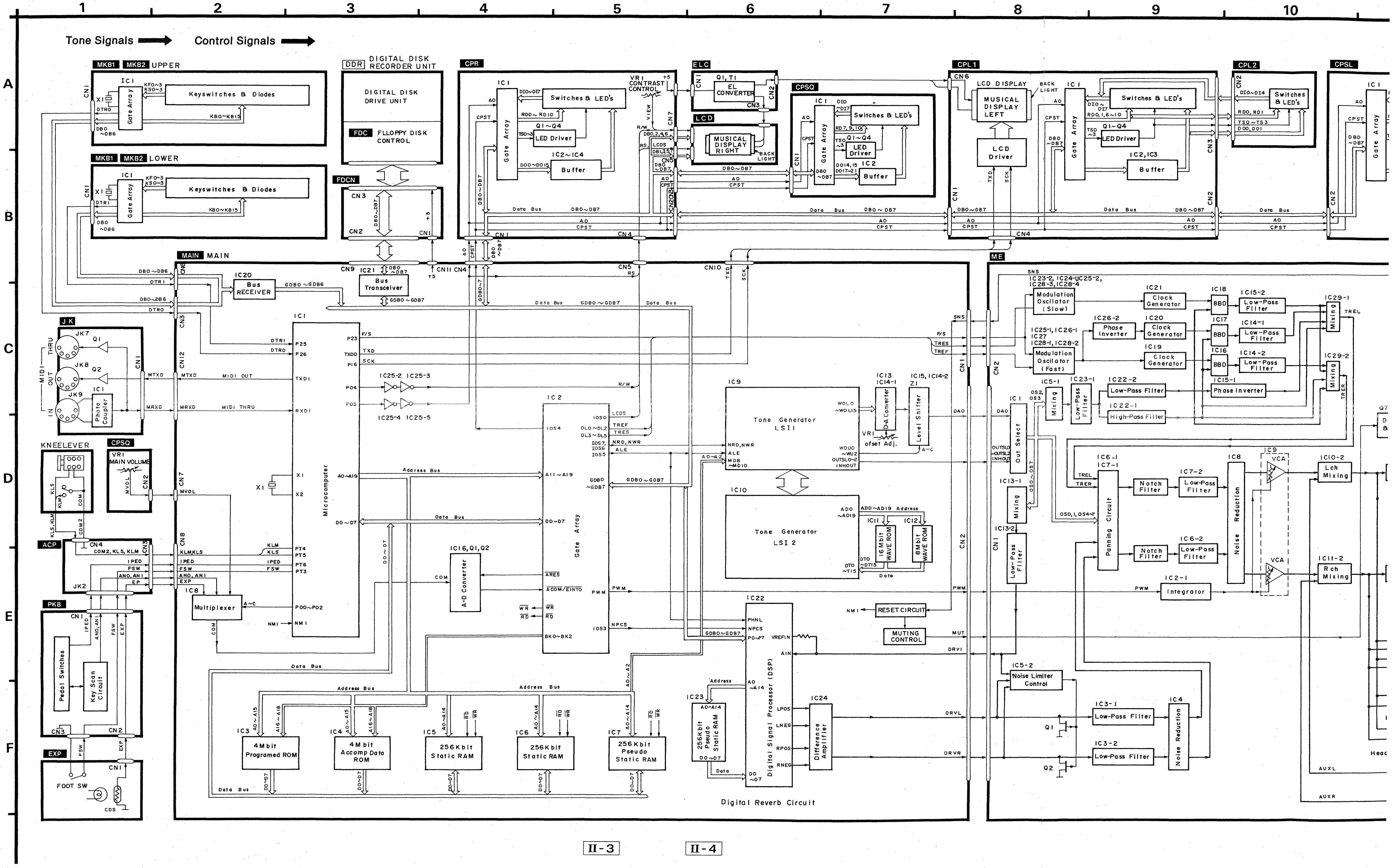
7
8
9
10
A
B
C
D
E
F
MKB1 LOWER MANUAL KEYBOARD
CN1
MKB2
W1 QEXGSS14040B
CPSL LOWER CONTROL PANEL LEFT
CN1
E
MKB1 UPPER MANUAL KEYBOARD
CN1
MKB2
CPSQ SEQUENCER CONTROL PANEL
CN1
CN4
E
W31 QEXGSA13045A
W3 QEXGSS03065A
DIGITAL DISK RECORDER
FDC FD CONTROL
FDCN FD CONNECTOR
CN1
CN3
CN2
W4 QEXG16008SSA
W5 QEXGSS04035A
ME MIXING & EFFECT
CN4
CN3
CN1
CN2
MAIN MAIN
CN2
CN1
CN9
CN6
CN3
CN4
CN5
CN11
CN8
CN7
CN12
CN10
W2 QEXGSS14045A
W8 QEXGSA13055A
JK JACK
CN3
CN2
E
E
W6 QEXGSS08070B
W11 QEXGST10160A
W7 QEXGSS05045A
W12 QEXGSA13015A
W10 QEXGST12200A
CPL2 UPPER CONTROL PANEL LEFT 2
CN1
CPL1 UPPER CONTROL PANEL LEFT 1
CN2
CN3
W29 QEXGEH03010B
LEC LE CONVERTER
CN2
CN3
CN1
W30 QEXGZA04010A
CN6
LCD LCD DISPLAY
CPR UPPER CONTROL PANEL RIGHT
W9 QEXGSA06060A
CN1
CN4
CN2
CN7
CN4
CN5
CN1
CN3
E
E
E
W13 QEXGSA13015A
W14 QEXGSA13015A
W15 QEXGSA07065A
SP7 13 x 6cm, 16Ω
BLK
RED
SP6 13 x 6cm, 16 Ω
BLK
WHT
PC1 AC POWER CORD
S1 POWER SWITCH
W16 QEXGVH03200B
ACP AC POWER SUPPLY
JK2 PEDAL IN
JK1 AC IN
CN1
CN3
CN4
CN2
W18 QEXGVH07060B
W25 QEXGZA08100B
TC
CN2
CN1
T1 POWER TRANSFORMER
W20 QEXGVH06040B
W19 QEXGVH05035B
AS AMP & POWER SUPPLY
CN6
CN5
CN4
CN1
CN2
CN3
FAN MOTOR
W24 QEXGEH03085B
D1 POWER INDICATOR
W23 QEXGVH04180B
SP5 2.5cm, 4Ω
BLK
YLW
SP4 2.5cm, 4Ω
BLK
BRN
SP1 20cm, 4Ω
SP3 16cm, 8Ω
SP2 16cm, 8Ω
W17 QEXGEH04085B
W27 SWKG0326LTA
W26 QEXG04005LSA
W21 QEXG06011ZA
W22 QEXGVH06025B
PKB PEDAL KEYBOARD
CN1
CN3
CN2
EXP EXPRESSION
CN1
KNEE LEVER
NW NETWORK
CN1
CN2
BLK
WHT
BLK
BLU
BLK
RED
YLW
WHT
BLK
BLU
BLK
RED
BRN
BLK
BLK
RED
L
R
W28 QEXGVH08120B

BLOCK DIAGRAM


1
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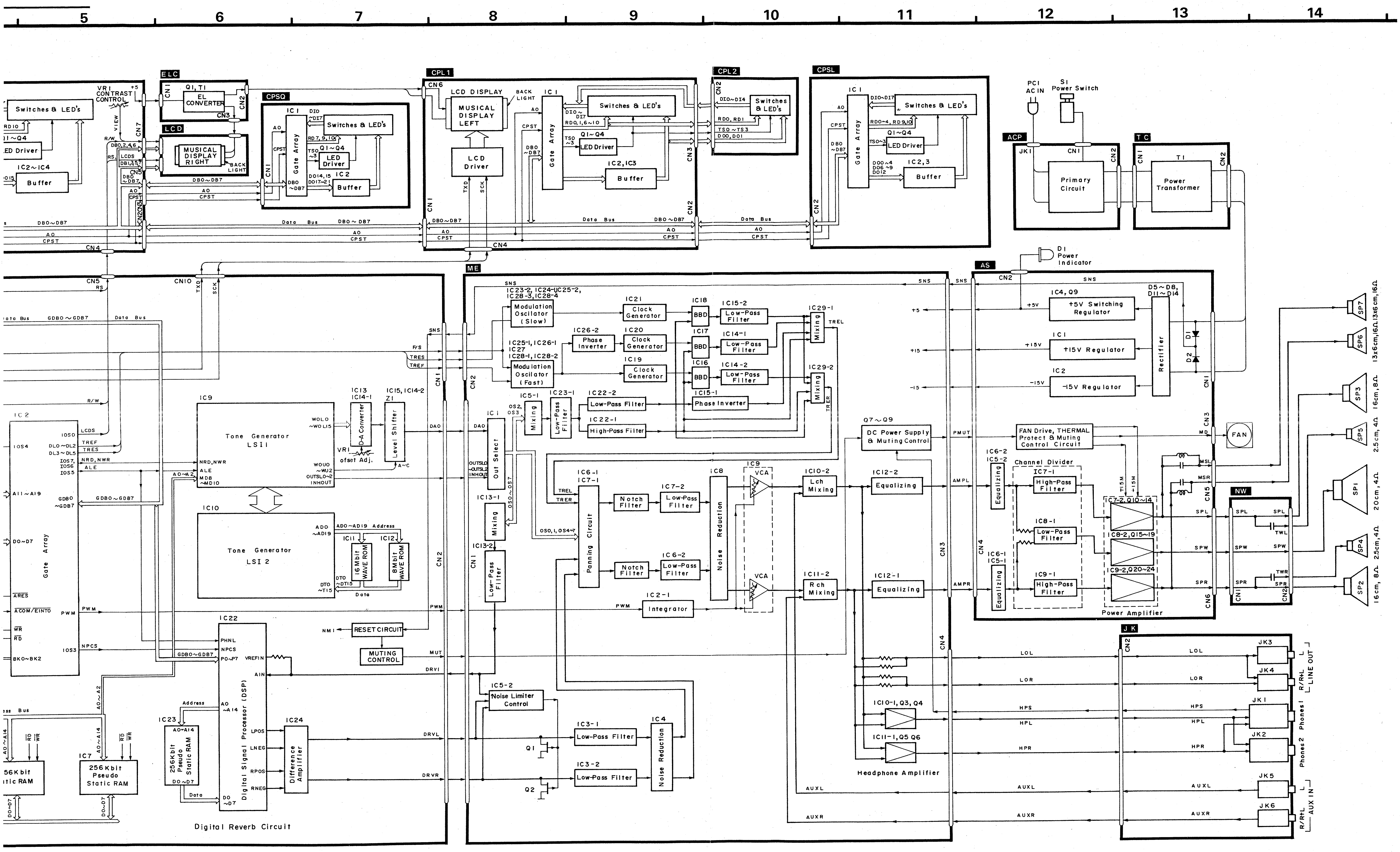
9
10
A
B
C
D
E
F
Tone Signals
Control Signals
MKB1 MKB2 UPPER
Keyswitches & Diodes
Gate Array
MKB1 MKB2 LOWER
DDR DIGITAL DISK RECORDER UNIT
DIGITAL DISK DRIVE UNIT
FDC FLLOPPY DISK CONTROL
FDCN
CPR
Switches & LED's
LED Driver
Buffer
VR1 CONTRAST CONTROL
ELC
EL CONVERTER
LCD
MUSICAL DISPLAY RIGHT
BACK LIGHT
CPSQ
CPL1
LCD DISPLAY
MUSICAL DISPLAY LEFT
LCD Driver
CPL2
CPSL
MAIN MAIN
IC20 Bus RECEIVER
IC21 Bus Transceiver
JK
JK7
JK8
JK9
MIDI THRU OUT IN
Photo Coupler
KNEELEVER
CPSQ VR1 MAIN VOLUME
ACP
PKB
Pedal Switches
Key Scan Circuit
EXP
FOOT SW
CDS
IC1 Microcomputer
IC2 Gate Array
IC8 Multiplexer
IC16,Q1,Q2 A-D Converter
IC25-2 IC25-3
IC25-4 IC25-5
Data Bus
Address Bus
IC3 4Mbit Programed ROM
IC4 4Mbit Accomp Data ROM
IC5 256Kbit Static RAM
IC6 256Kbit Static RAM
IC7 256Kbit Pseudo Static RAM
IC9 Tone Generator LSI1
IC10 Tone Generator LSI2
IC11 16Mbit WAVE ROM
IC12 8Mbit WAVE ROM
IC13 IC14-1 D-A Converter
VR1 ofset Adj.
IC15,IC14-2 Z1 Level Shifter
IC22 Digital Signal Processor (DSP)
IC23 256Kbit Pseudo Static RAM
IC24 Difference Amplifier
RESET CIRCUIT
MUTING CONTROL
Digital Reverb Circuit
ME
Modulation Oscillator (Slow)
Modulation Oscillator (Fast)
IC26-2 Phase Inverter
IC21 Clock Generator
IC20 Clock Generator
IC19 Clock Generator
IC18 BBD
IC17 BBD
IC16 BBD
IC15-2 Low-Pass Filter
IC14-1 Low-Pass Filter
IC14-2 Low-Pass Filter
IC29-1 Mixing
IC29-2 Mixing
IC1 Out Select
IC5-1 Mixing
IC23-1 Low-Pass Filter
IC22-2 Low-Pass Filter
IC22-1 High-Pass Filter
IC15-1 Phase Inverter
IC13-1 Mixing
IC13-2 Low-Pass Filter
IC6-1 IC7-1 Panning Circuit
Notch Filter
IC7-2 Low-Pass Filter
IC6-2 Low-Pass Filter
IC8 Noise Reduction
IC9 VCA
IC10-2 Lch Mixing
IC11-2 Rch Mixing
IC2-1 Integrator
IC5-2 Noise Limiter Control
IC3-1 Low-Pass Filter
IC3-2 Low-Pass Filter
IC4 Noise Reduction
Q1
Q2
AUXL
AUXR


5
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7
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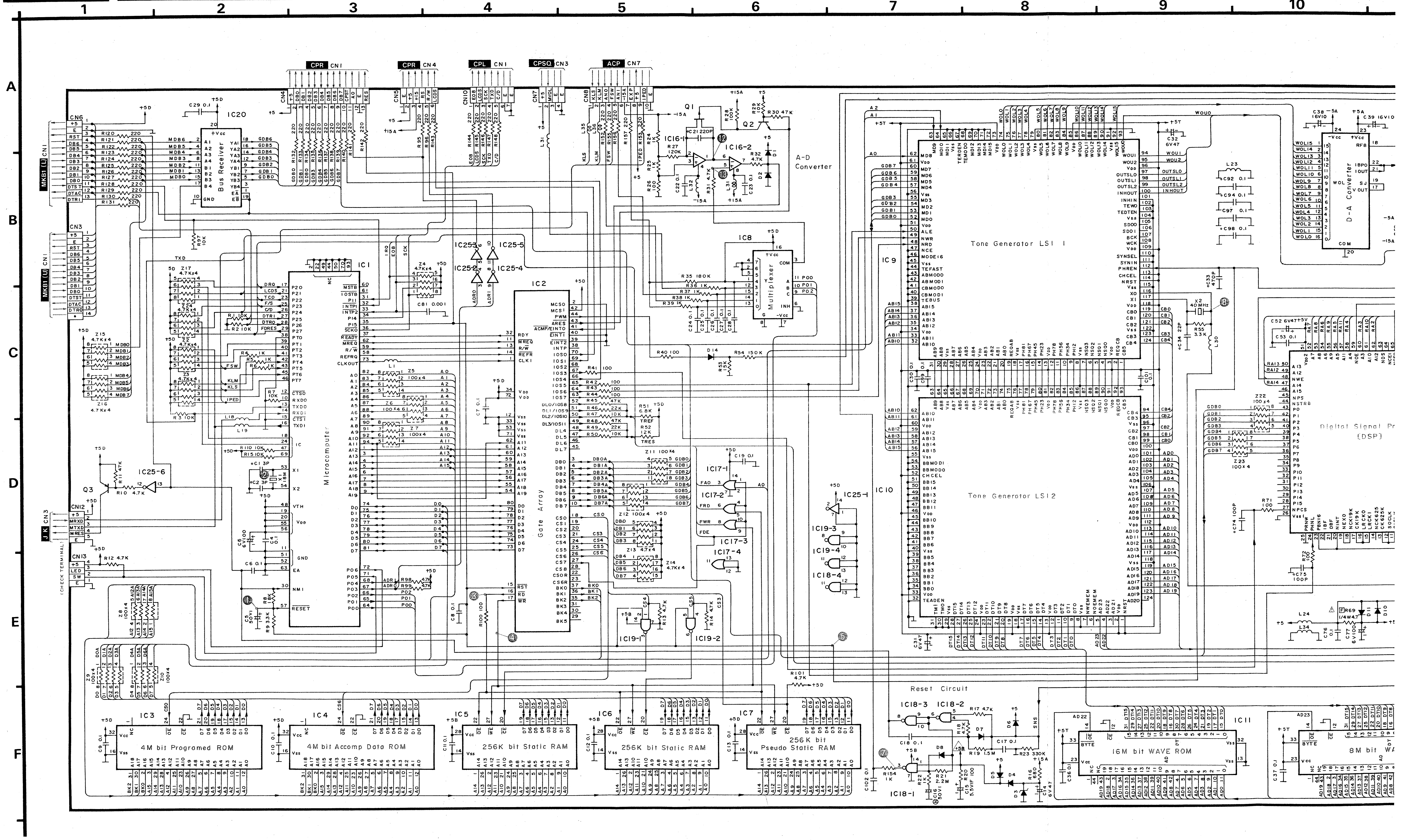
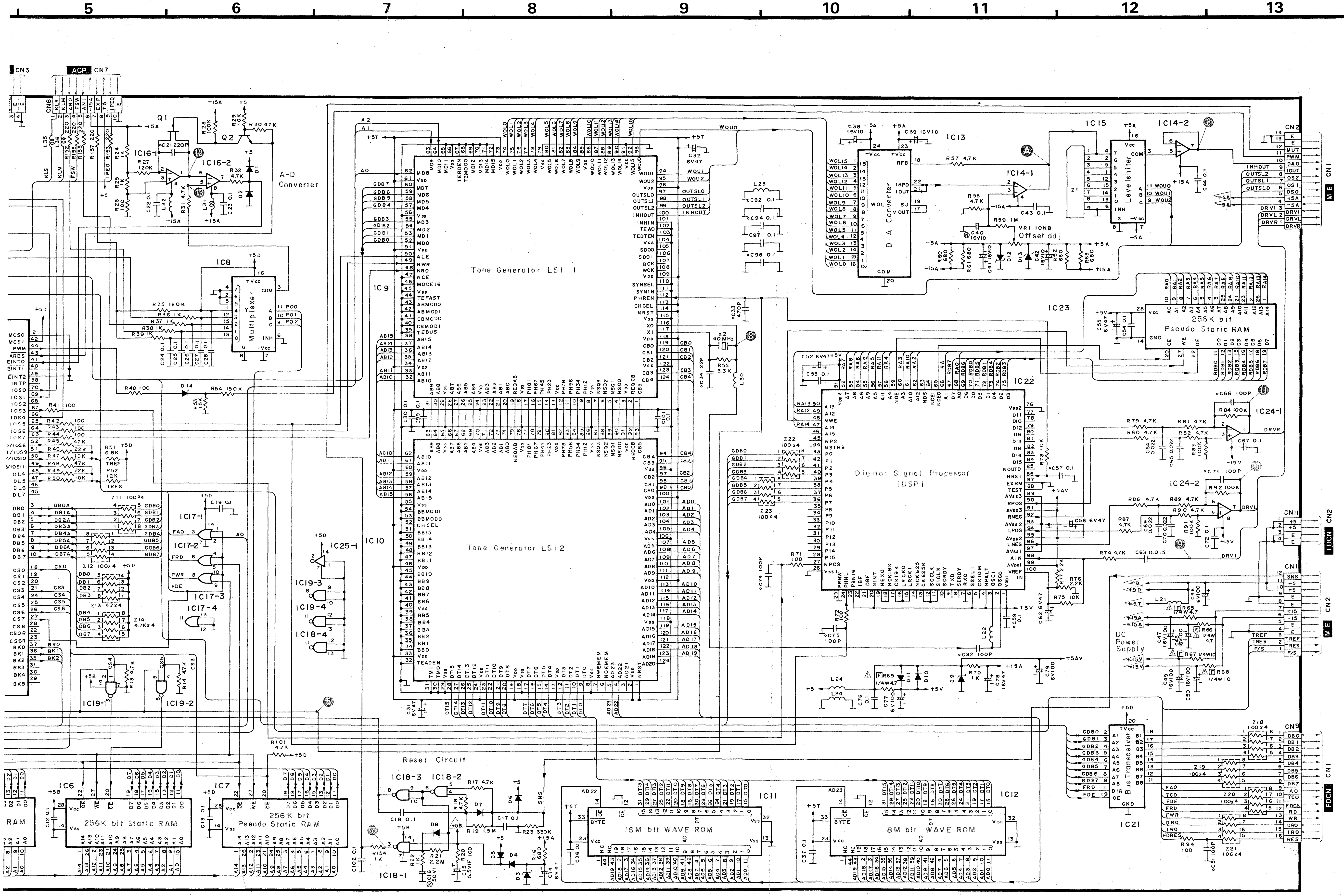
11
12
13
14
ELC
Q1, T1
EL CONVERTER
VR1 CONTRAST CONTROL
LCD
MUSICAL DISPLAY RIGHT
BACK LIGHT
CPSQ
IC1
Gate Array
Switches & LED's
Q1~Q4
LED Driver
IC2
Buffer
Switches & LED's
LED Driver
IC2~IC4
Buffer
CPL1
LCD DISPLAY
MUSICAL DISPLAY LEFT
LCD Driver
BACK LIGHT
IC1
Gate Array
Switches & LED's
Q1~Q4
LED Driver
IC2, IC3
Buffer
CPL2
Switches & LED's
CPSL
IC1
Gate Array
Switches & LED's
Q1~Q4
LED Driver
IC2, 3
Buffer
Data Bus
DB0~DB7
A0
CPST
PC1 AC IN
S1 Power Switch
ACP
JK1
CN1
Primary Circuit
TC
T1
Power Transformer
D1 Power Indicator
ME
IC23-2, IC24-1,IC25-2, IC28-3, IC28-4
Modulation Oscillator (Slow)
IC21
Clock Generator
IC18
BBD
IC15-2
Low-Pass Filter
IC26-2
Phase Inverter
IC20
Clock Generator
IC17
BBD
IC14-1
Low-Pass Filter
IC25-1, IC26-1
IC27
IC28-1, IC28-2
Modulation Oscillator (Fast)
IC19
Clock Generator
IC16
BBD
IC14-2
Low-Pass Filter
IC29-1
Mixing
TREL
IC29-2
Mixing
TRER
IC15-1
Phase Inverter
IC22-2
Low-Pass Filter
IC22-1
High-Pass Filter
IC5-1
Mixing
IC23-1
Low-Pass Filter
IC1
Out Select
IC13-1
Mixing
IC13-2
Low-Pass Filter
IC6-1
IC7-1
Panning Circuit
Notch Filter
IC7-2
Low-Pass Filter
Notch Filter
IC6-2
Low-Pass Filter
IC8
Noise Reduction
IC9
VCA
VCA
IC10-2
Lch Mixing
IC11-2
Rch Mixing
IC12-2
Equalizing
IC12-1
Equalizing
IC2-1
Integrator
PWM
Q7~Q9
DC Power Supply & Muting Control
IC9
Tone Generator LSI1
IC10
Tone Generator LSI 2
IC11
16Mbit WAVE ROM
IC12
8Mbit WAVE ROM
IC13
IC14-1
D-A Converter
IC15, IC14-2
Z1
Level Shifter
VR1
offset Adj.
IC2
Gate Array
RESET CIRCUIT
MUTING CONTROL
IC22
Digital Signal Processor (DSP)
IC23
256Kbit Pseudo Static RAM
IC24
Difference Amplifier
IC7
256Kbit Pseudo Static RAM
256Kbit Static RAM
Digital Reverb Circuit
IC5-2
Noise Limiter Control
IC3-1
Low-Pass Filter
IC3-2
Low-Pass Filter
IC4
Noise Reduction
Q1
Q2
AS
IC4, Q9
+5V Switching Regulator
IC1
+15V Regulator
IC2
-15V Regulator
D5~D8, D11~D14
Rectifier
D1
D2
FAN Drive, THERMAL Protect & Muting Control Circuit
FAN
IC6-2
IC5-2
Equalizing
Channel Divider
IC7-1
High-Pass Filter
IC8-1
Low-Pass Filter
IC9-1
High-Pass Filter
IC6-1
IC5-1
Equalizing
IC7-2, Q10~14
IC8-2, Q15~19
IC9-2, Q20~24
Power Amplifier
NW
SPL
SPW
SPR
TWL
TWR
SP7
SP6
13x6cm,16Ω,13x6cm,16Ω
SP3
16cm, 8Ω
SP5
2.5cm, 4Ω
SP1
20cm, 4Ω
SP4
2.5cm, 4Ω
SP2
16cm, 8Ω
JK
JK3
JK4
L R/R+L LINE OUT
JK1
JK2
Phones1 Phones2
JK5
JK6
L R/R+L AUX IN
IC10-1, Q3, Q4
IC11-1, Q5 Q6
Headphone Amplifier
LOL
LOR
HPS
HPL
HPR
AUXL
AUXR
AMPL
AMPR
SNS
PMUT

MAIN CIRCUIT DIAGRAM


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
CPR CN1
CPR CN4
CPL CN1
CPSO CN3
ACP CN7
MKB1 (L) CN1
MKB1 (U) CN1
JK CN3
(CHECK TERMINAL)
IC20
Bus Receiver
IC1
Microcomputer
IC2
Gate Array
IC25-3
IC25-5
IC25-2
IC25-4
IC25-6
IC25-1
IC8
Multiplexer
Q1
Q2
Q3
IC16-1
IC16-2
A-D Converter
IC9
Tone Generator LSI 1
Tone Generator LSI 2
IC10
IC17-1
IC17-2
IC17-3
IC17-4
IC19-1
IC19-2
IC19-3
IC19-4
IC18-4
D-A Converter
Digital Signal Pr
(DSP)
X1
X2 40MHz
IC3
4M bit Programed ROM
IC4
4M bit Accomp Data ROM
IC5
256K bit Static RAM
IC6
256K bit Static RAM
IC7
256K bit
Pseudo Static RAM
Reset Circuit
IC18-1
IC18-2
IC18-3
IC11
16M bit WAVE ROM
8M bit WA


5
6
7
8
9
10
11
12
13
14
CN3
ACP CN7
CN8
Q1
Q2
IC16-1
IC16-2
A-D Converter
IC8
Multiplexer
IC9
IC10
Tone Generator LSI 1
Tone Generator LSI 2
IC13
D-A Converter
IC14-1
IC14-2
IC15
Level shifter
VR1 10KB Offset adj
IC23
256K bit Pseudo Static RAM
IC22
Digital Signal Processor (DSP)
IC24-1
IC24-2
X2 40MHz
IC17-1
IC17-2
IC17-3
IC17-4
IC19-1
IC19-2
IC19-3
IC19-4
IC18-4
IC25-1
Reset Circuit
IC18-1
IC18-2
IC18-3
IC6
256K bit Static RAM
IC7
256K bit Pseudo Static RAM
IC11
16M bit WAVE ROM
IC12
8M bit WAVE ROM
IC20
Bus Transceiver
IC21
DC Power Supply
CN2
CN1
CN11
CN9
ME
FDCN

NOTES:

- **IC'S**

IC1:	D70325GJ-10
IC2:	D65012GF-A79
IC5, 6:	ATT7C256BF85
IC7, 23:	HM65256BLF10
IC8, 15:	T74H4051AF
IC9:	MN73012PGC
IC10:	MN73013PGD
IC11:	QSIGU3C16311
IC12:	QSIGU3C08801
IC13:	PCM55HP
IC14, 16, 24:	M5238FP
IC17:	M74HC32FP
IC18, 19:	M74HC00FP
IC20:	M74HC244FP
IC21:	M74HC245FP
IC22:	MN199001PSA3
IC25:	M74HC04FP

- **TRANSISTORS**

Q1:	2SJ105GR
Q2:	2SC1815GR
Q3:	2SA1015-GR

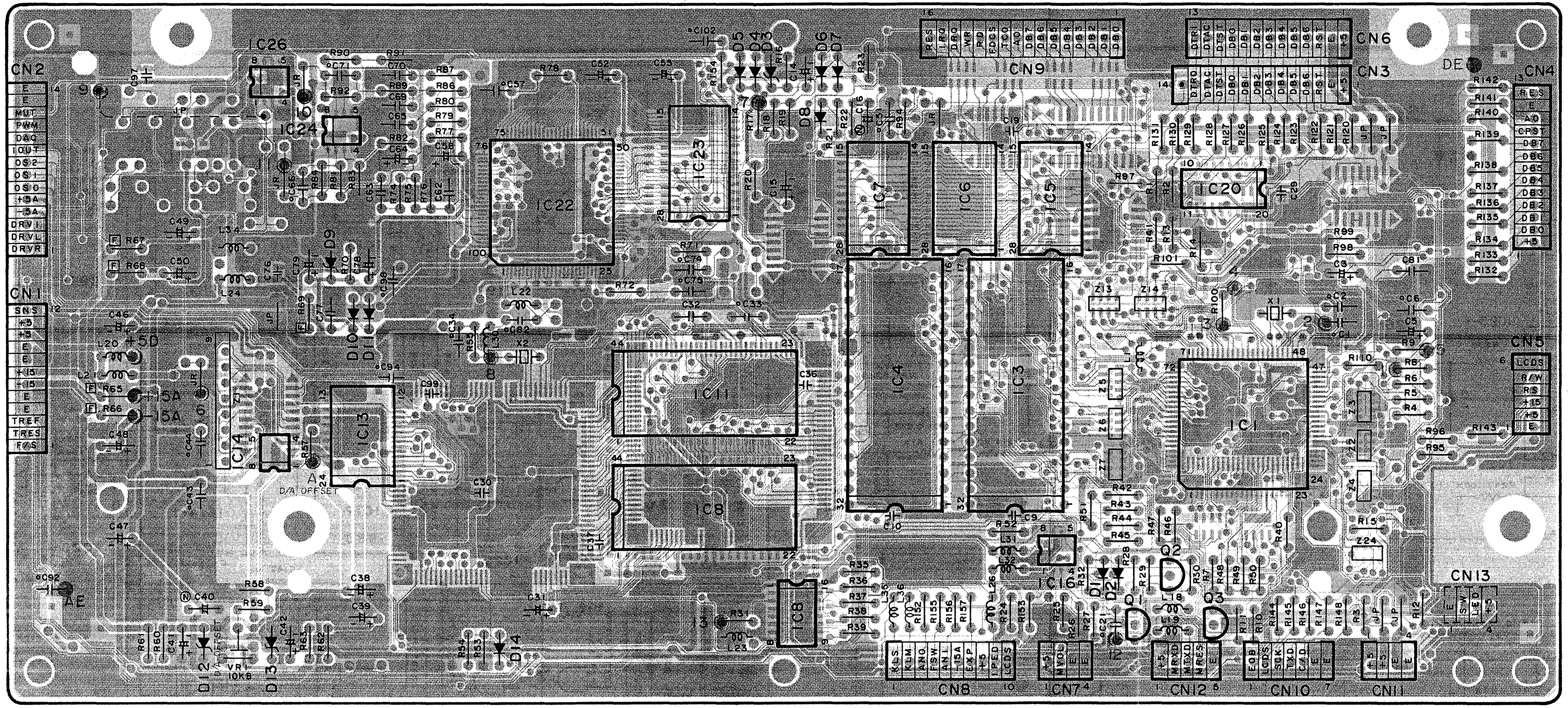
- **DIODES**

D1, 2, 4~8, 10, 11, 14:	MA165TA5
D3, 9, 12, 13:	MA4056

MAIN MAIN CIRCUIT BOARD

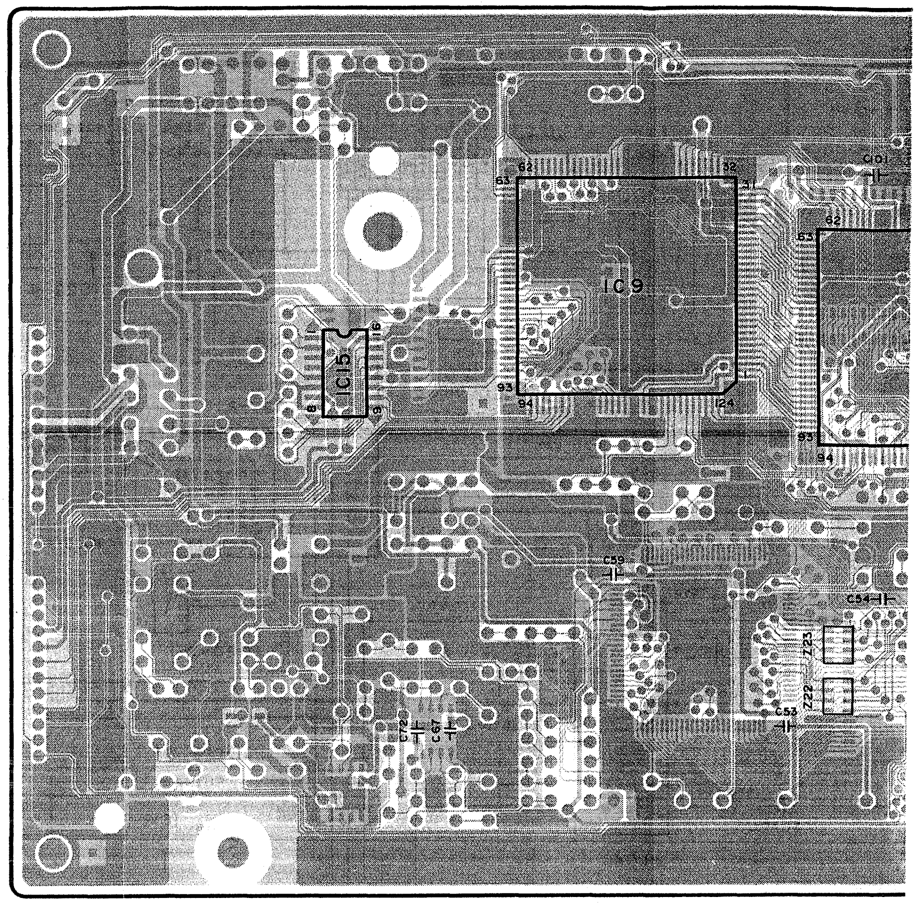
1 2 3 4 5 6 7 8 9 10

MAIN COMPONENT SIDE


CN1
CN2
CN3
CN4
CN5
CN6
CN7
CN8
CN9
CN10
CN11
CN12
CN13
IC1
IC3
IC4
IC5
IC6
IC7
IC8
IC11
IC13
IC14
IC16
IC18
IC20
IC22
IC23
IC24
IC26
D/A OFFSET

▬ Component Side
▬ Foil Side

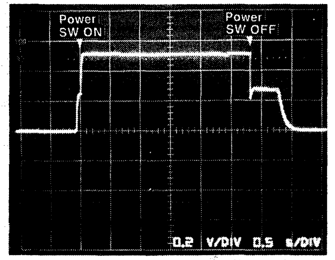
MAIN FOIL SIDE



■ Waveform measurement

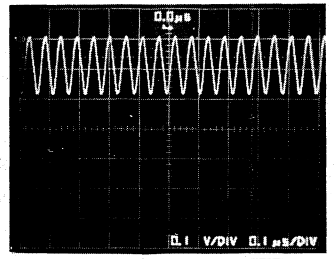
1. Activate the initial setting methode. (Refer to page I-7)
2. Set the E. organ to reference required mode as followings.
   - UPPER ORCHESTRAL CONDUCTOR ..... TAB & ORGAN
   - UPPER TAB & ORGAN .... FLUTE 8': ON
     FLUTE 16': OFF
     FLUTE 4': OFF
     FLUTE 2': OFF
   - TREMOLO .... OFF
   - DIGITAL REVERB .... ALL OFF
3. Change the setting as indicate below the pictures to confirm the waveforms.

❶ $\overline{\text{RESET}}$

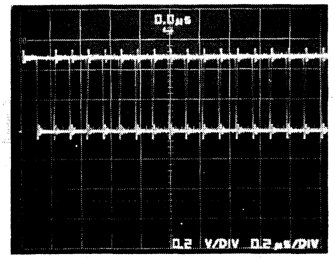


- Power SW........................... ON → OFF

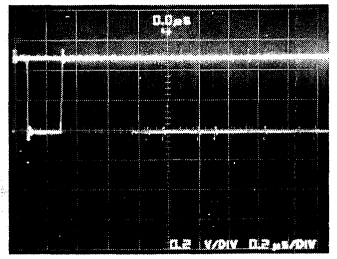
❷ X1, 18MHz



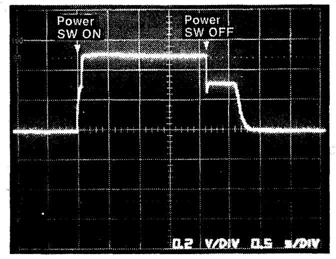
❸ $\overline{\text{RD}}$



❹ $\overline{\text{WR}}$

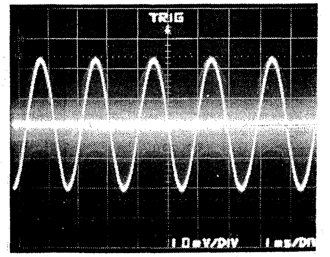


❺ $\overline{\text{RST}}$



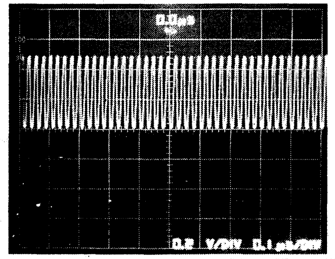
- Power SW........................... ON → OFF

❻

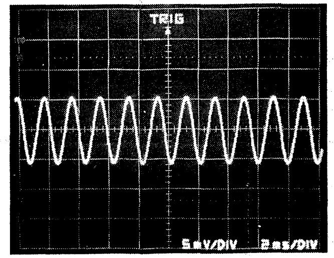


- Upper Keyboard .... C_4 Ke

❽ X2, 40MHz

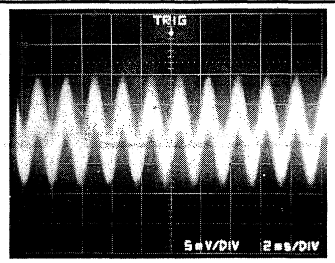


❾



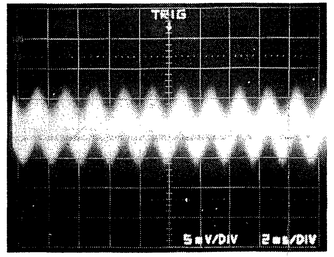
- Digital Reverb........................ ROOM ON
- Upper Keyboard .... C_4 Key

❿



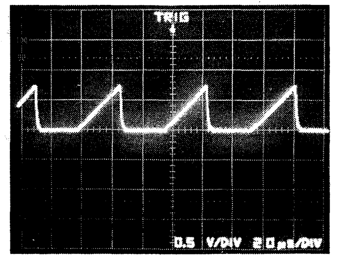
- Digital Reverb........................ ROOM ON
- Upper Keyboard .... C_4 Key

⓫

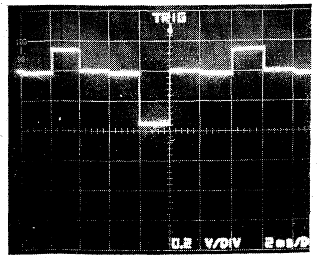


- Digital Reverb........................ ROOM ON
- Upper Keyboard .... C_4 Key

⓬



⓭

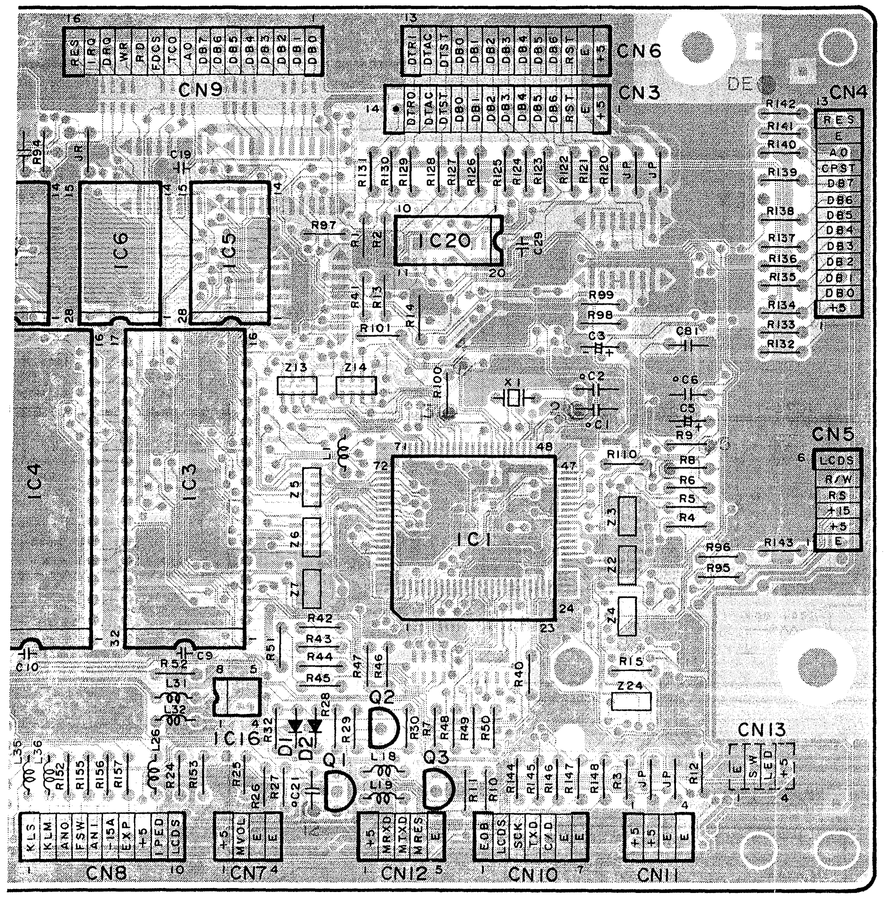


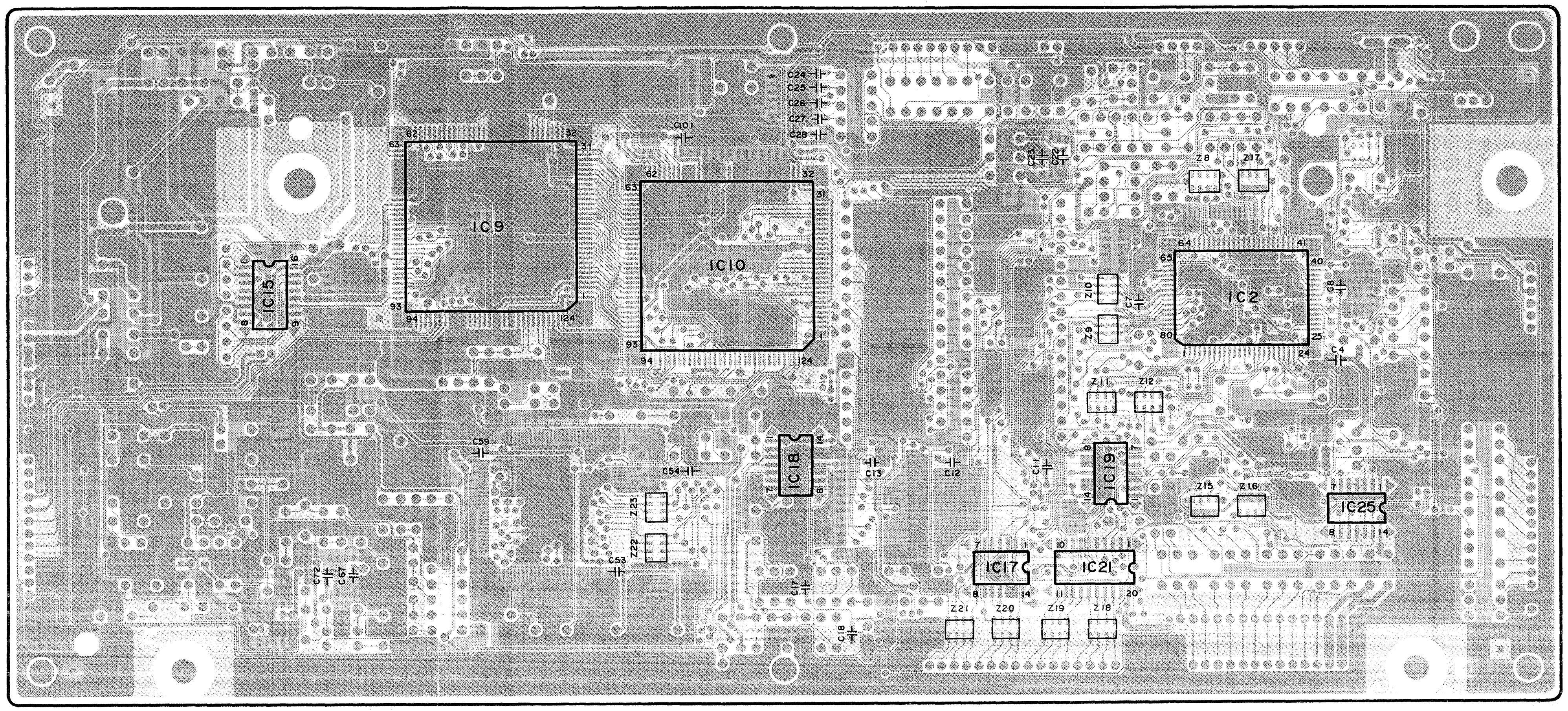
- MAIN VOLUME.................................. M/
- EXP. PEDAL...................................... M/

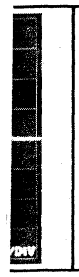
Component Side
Foil Side

MAIN **FOIL SIDE**

SXPG213021

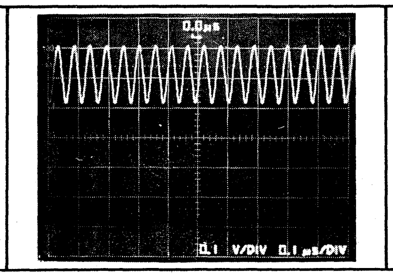

5
6
7
CN9
CN6
CN3
CN4
CN5
CN13
CN8
CN7
CN12
CN10
CN11
IC1
IC3
IC4
IC5
IC6
IC16
IC20
Q1
Q2
Q3
D1
D2
X1


8
9
10
11
12
13
14
IC2
IC9
IC10
IC15
IC17
IC18
IC19
IC21
IC25

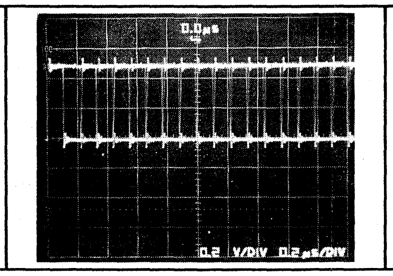


FF

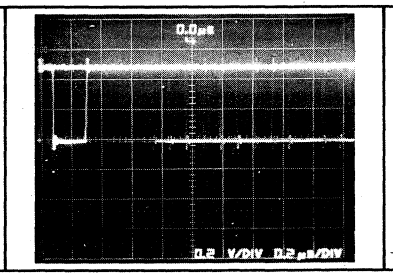
❷ X1, 18MHz



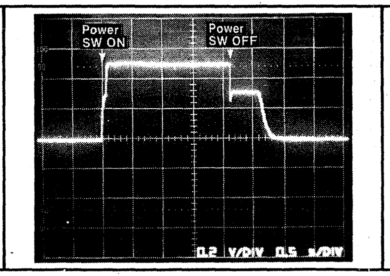
❸ $\overline{RD}$



❹ $\overline{WR}$

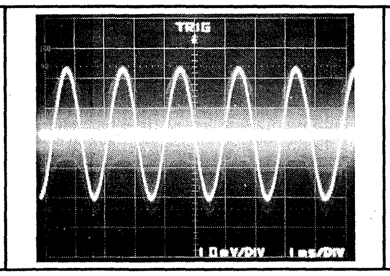


❺ $\overline{RST}$



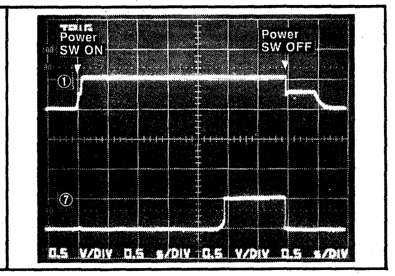
- Power SW.......................... ON → OFF

❻

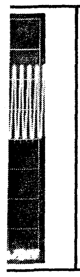


- Upper Keyboard .... C_4 Key

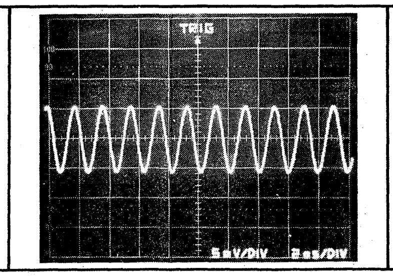
❼ MUT



- Power SW.......................... ON → OFF

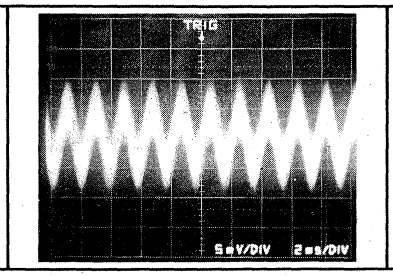


❾



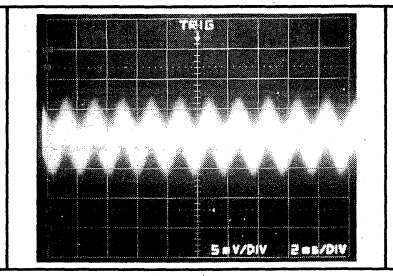
- Digital Reverb...................... ROOM ON
- Upper Keyboard .... C_4 Key

❿



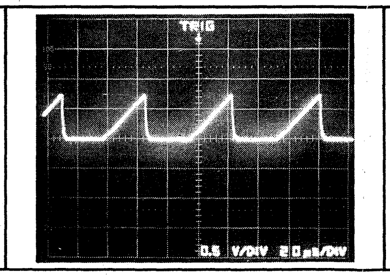
- Digital Reverb...................... ROOM ON
- Upper Keyboard .... C_4 Key

⓫

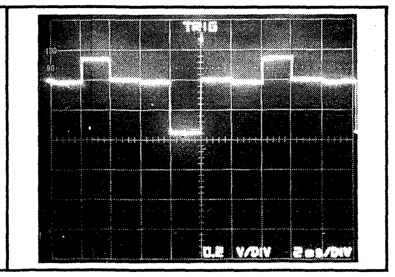


- Digital Reverb...................... ROOM ON
- Upper Keyboard .... C_4 Key

⓬



⓭



- MAIN VOLUME.............................. MAX
- EXP. PEDAL.................................. MAX

NOTES:

- IC'S

IC1:	D70325GJ-10
IC2:	D65012GF-A79
IC5, 6:	ATT7C256BF85
IC7, 23:	HM65256BLF10
IC8, 15:	T74H4051AF
IC9:	MN73012PGC
IC10:	MN73013PGD
IC11:	QSIGU3C16311
IC12:	QSIGU3C08801
IC13:	PCM55HP
IC14, 16, 24:	M5238FP
IC17:	M74HC32FP
IC18, 19:	M74HC00FP
IC20:	M74HC244FP
IC21:	M74HC245FP
IC22:	MN199001PSA3
IC25:	M74HC04FP

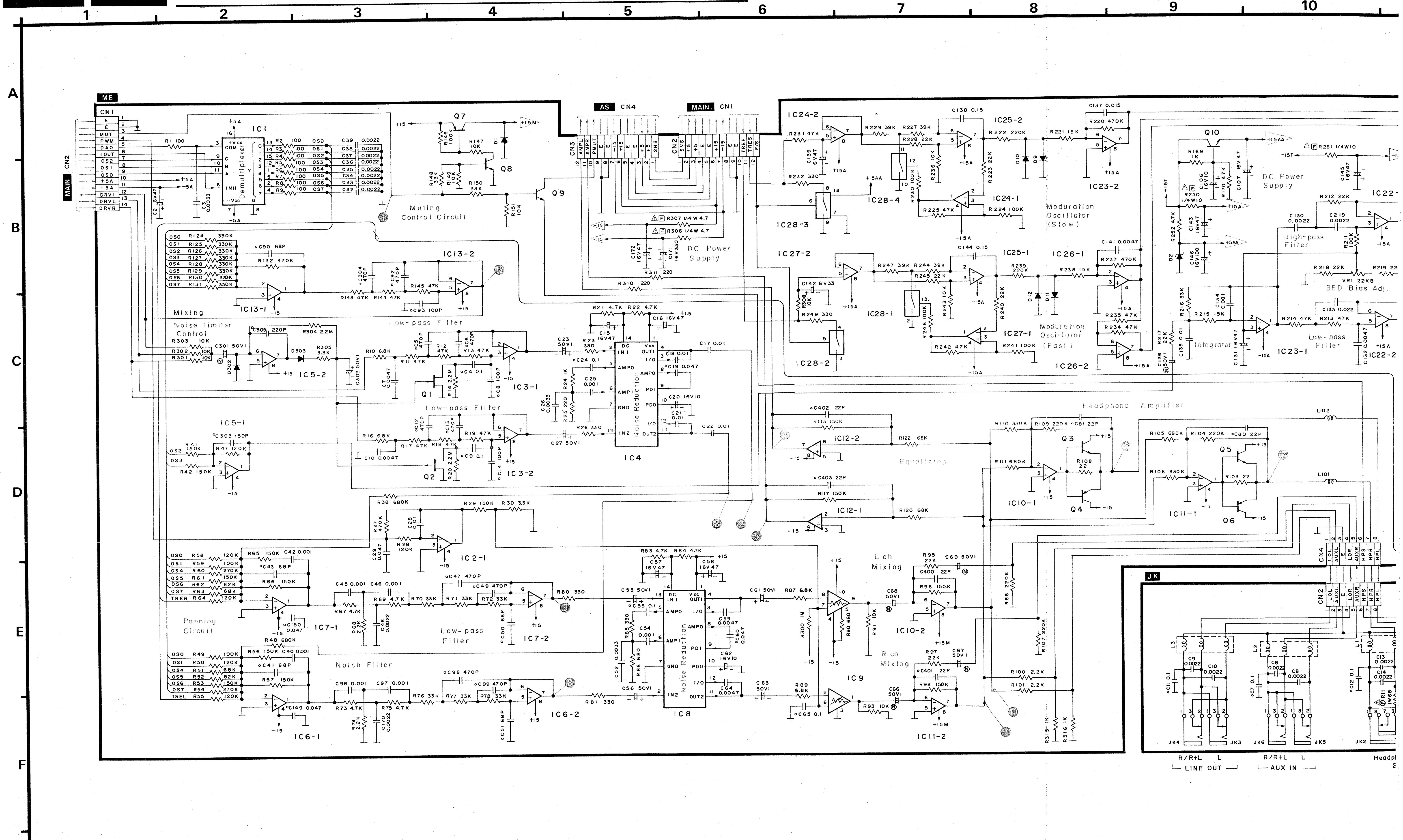
- TRANSISTORS

Q1:	2SJ105GR
Q2:	2SC1815GR
Q3:	2SA1015-GR

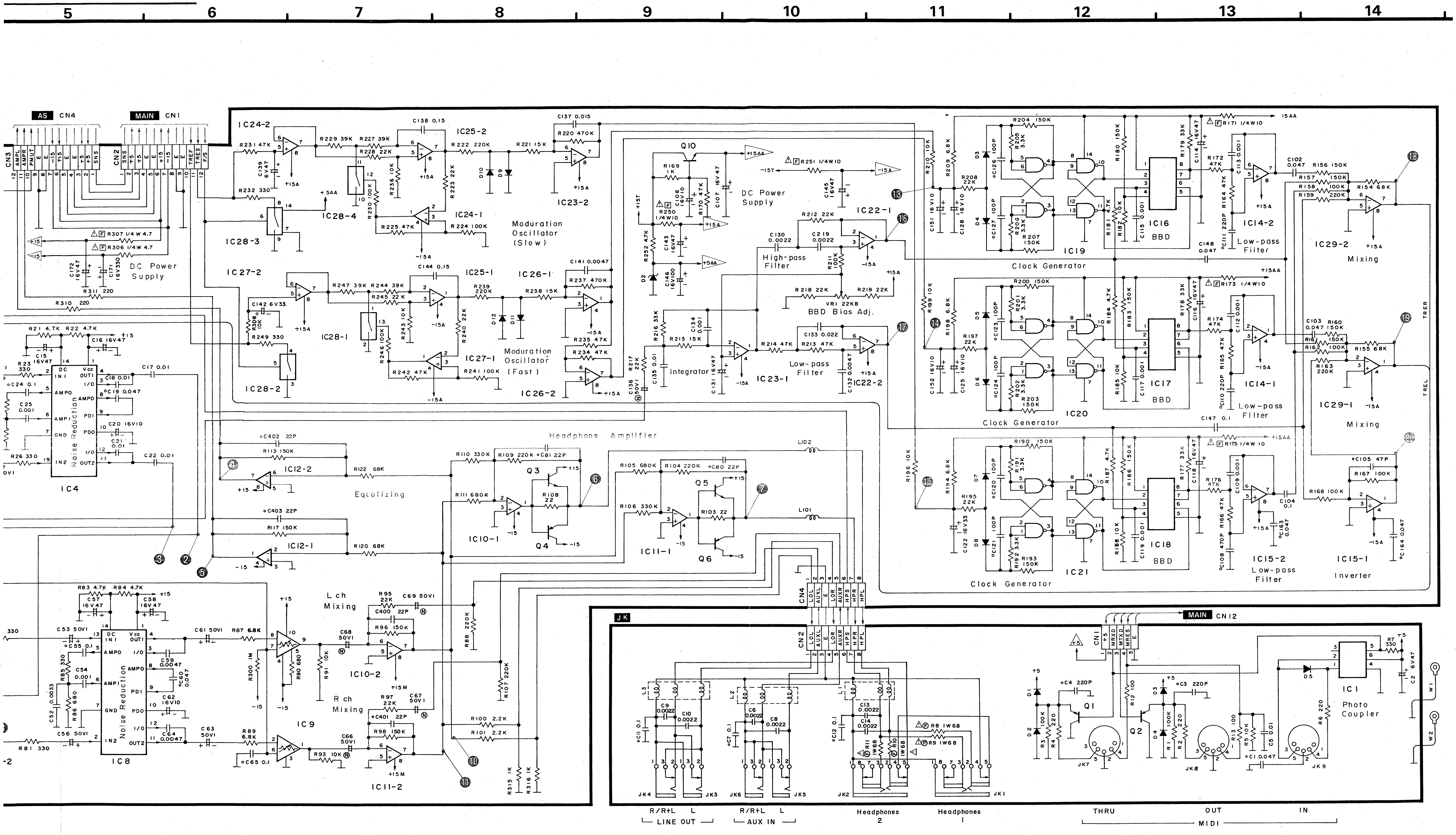
- DIODES

D1, 2, 4~8, 10, 11, 14:	MA165TA5
D3, 9, 12, 13:	MA4056

ME JK MIXING & EFFECT AND JACK CIRCUIT DIAGRAM


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
ME
CN1
MAIN
CN2
IC1
Demultiplexer
Q7
Q8
Q9
Muting Control Circuit
AS CN4
MAIN CN1
CN3
CN2
DC Power Supply
R307 1/4W 4.7
R306 1/4W 4.7
IC13-1
IC13-2
Mixing
Noise limiter Control
IC5-2
IC5-1
Low-pass Filter
IC3-1
IC3-2
Q1
Q2
IC4
Noise Reduction
IC2-1
Panning Circuit
IC7-1
IC7-2
Notch Filter
IC6-1
IC6-2
IC8
IC9
IC24-2
IC25-2
IC24-1
IC23-2
IC28-4
IC28-3
IC27-2
IC25-1
IC26-1
IC28-1
IC27-1
IC26-2
IC28-2
Moduration Oscillator (Slow)
Moduration Oscillator (Fast)
Q10
R251 1/4W10
High-pass Filter
BBD Bias Adj.
VR1 22KB
Integrator
Low-pass Filter
IC23-1
IC22-2
IC22-1
IC12-2
IC12-1
Equalizing
Headphone Amplifier
IC10-1
IC11-1
Q3
Q4
Q5
Q6
L102
L101
Lch Mixing
Rch Mixing
IC10-2
IC11-2
CN4
LOL AUXL E LOR AUXR HPS HPR HPL
JK
CN2
L3
L2
L1
JK4
JK3
JK6
JK5
JK2
R/R+L L
LINE OUT
R/R+L L
AUX IN
Headp

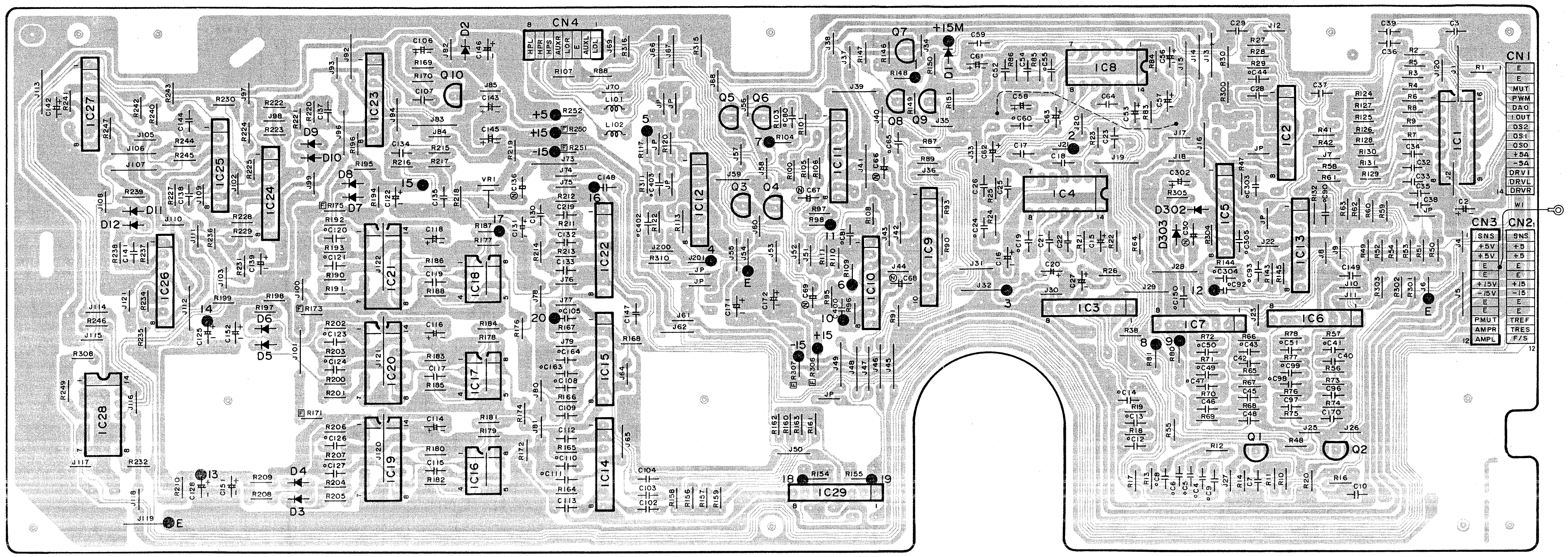
UIT DIAGRAM


5
6
7
8
9
10
11
12
13
14
AS CN4
MAIN CN1
CN3
CN2
AMPL
AMPR
PMUT
SNS
TREF
TRES
F/S
IC24-2
IC25-2
IC23-2
IC28-4
IC24-1
IC28-3
Moduration Oscillator (Slow)
DC Power Supply
IC27-2
IC25-1
IC26-1
IC28-1
IC27-1
Moduration Oscillator (Fast)
IC28-2
IC26-2
Q10
DC Power Supply
High-pass Filter
IC22-1
BBD Bias Adj.
VR1 22KB
Integrator
IC23-1
Low-pass Filter
IC22-2
IC16
BBD
IC19
Clock Generator
IC14-2
Low-pass Filter
IC29-2
Mixing
IC17
BBD
IC20
Clock Generator
IC14-1
Low-pass Filter
IC29-1
Mixing
IC18
BBD
IC21
Clock Generator
IC15-2
Low-pass Filter
IC15-1
Inverter
TRER
TREL
IC4
Noise Reduction
IC12-2
Equalizing
IC12-1
Headphone Amplifier
Q3
Q4
Q5
Q6
IC10-1
IC11-1
L102
L101
IC8
Noise Reduction
IC9
L ch Mixing
R ch Mixing
IC10-2
IC11-2
CN4
LOL
AUXL
E
LOR
AUXR
HPS
HPR
HPL
JK
CN2
MAIN CN12
CN1
MTXD
MRXD
MRES
Q1
Q2
IC1
Photo Coupler
W1
W2
JK4
JK3
JK6
JK5
JK2
JK1
JK7
JK8
JK9
R/R+L L
LINE OUT
R/R+L L
AUX IN
Headphones 2
Headphones 1
THRU
OUT
IN
MIDI

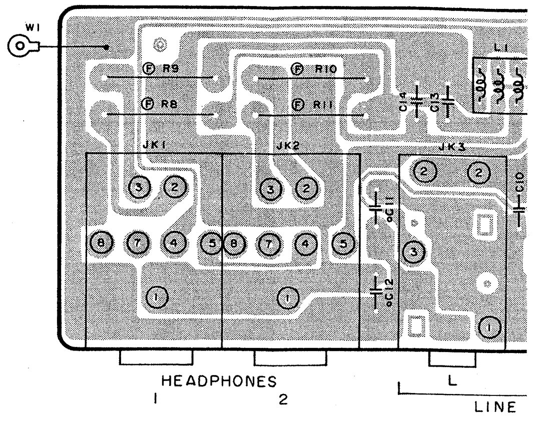
ME JK MIXING & EFFECT AND JACK CIRCUIT BOARD

1 2 3 4 5 6 7 8 9 10

ME


SXPG207561A
CN4
CN1
CN2
CN3
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
IC11
IC12
IC13
IC14
IC15
IC16
IC17
IC18
IC19
IC20
IC21
IC22
IC23
IC24
IC25
IC26
IC27
IC28
IC29
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
Q9
Q10
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
D12
D302
D303
VR1
+15M
+5
+15
-15
E
MUT
PWM
DAO
IOUT
OS2
OS1
OSO
+5A
-5A
DRVI
DRVL
DRVR
SNS
+5V
+15V
-15V
PMUT
AMPR
AMPL
TREF
TRES
F/S
W1

JK


W1
JK1
JK2
JK3
R8
R9
R10
R11
C11
C12
C13
C14
HEADPHONES
1
2
L
LINE

ME

NOTES:

- IC'S

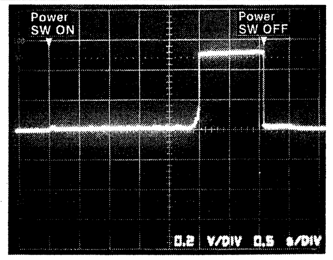
IC1:	SVIGT74H4051
IC2, 3, 5~7, 10~15, 22~24, 26, 27, 29:	SVIGM5218L
IC4, 8:	SVIGLM1894N
IC9:	SVIGM5241L
IC16~18:	MN3009
IC19~21:	SVIGMSM4011
IC25:	SVIGM5238L
IC28:	SVIGM74H4066

- TRAN
  Q1, 2
  Q3, 5
  Q4, 6
  Q7:
  Q8~1
- DIOD
  D1:
  D2:
  D3~1
  303:

■ Waveform measurement

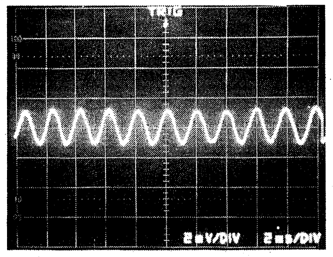
1. Activate the initial setting methode. (Refer to page I -7)
2. Set the E. organ to reference required mode as followings.
   - UPPER ORCHESTRAL CONDUCTOR ..... TAB & ORGAN
   - UPPER TAB & ORGAN ..... FLUTE 8': ON
     FLUTE 16': OFF
     FLUTE 4': OFF
     FLUTE 2': OFF
   - TREMOLO ..... OFF
   - DIGITAL REVERB ..... ALL OFF
3. Change the setting as indicate below the pictures to confirm the waveforms.

❶ MUT



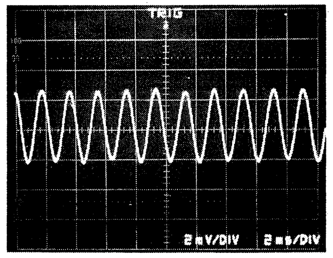
- Power SW ..... ON → OFF

❷



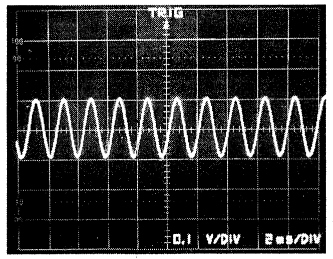
- Digital Reverb ..... ROOM ON
- Upper Keyboard ..... C_4 Key

❸



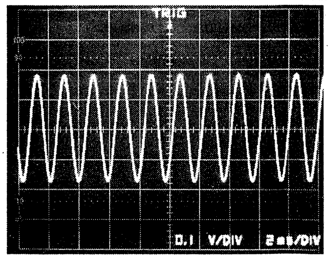
- Digital Reverb ..... ROOM ON
- Upper Keyboard ..... C_4 Key

❹



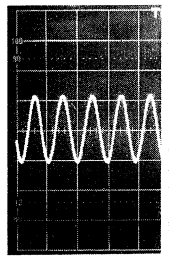
- Upper Keyboard ..... C_4 Key
- MAIN VOLUME ..... MAX
- EXP. PEDAL ..... MAX

❺



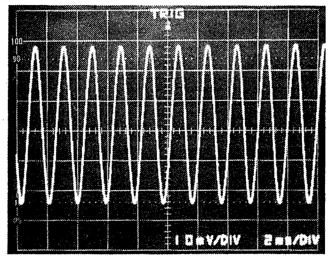
- Upper Keyboard ..... C_4 Key
- MAIN VOLUME ..... MAX
- EXP. PEDAL ..... MAX

❻



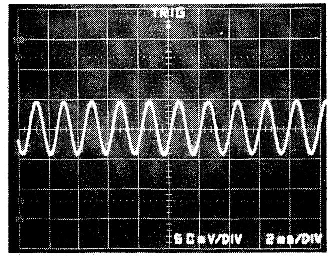
- Upper Keyboard ..
- MAIN VOLUME...
- EXP. PEDAL.......

❾



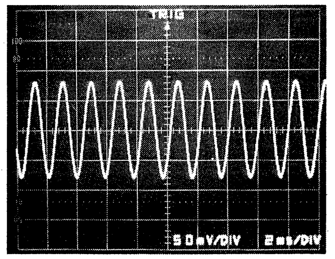
- Upper Keyboard ..... C_4 Key

❿



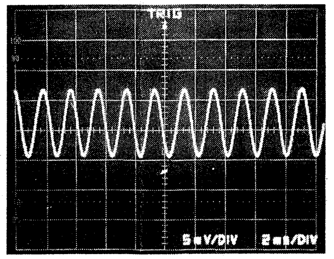
- Upper Keyboard ..... C_4 Key
- MAIN VOLUME ..... MAX
- EXP. PEDAL ..... MAX

⓫



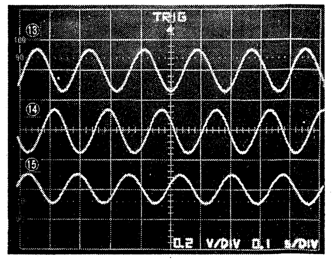
- Upper Keyboard ..... C_4 Key
- MAIN VOLUME ..... MAX
- EXP. PEDAL ..... MAX

⓬



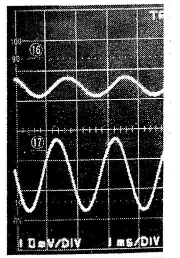
- Upper Keyboard ..... C_4 Key

⓭, ⓮, ⓯



- TREMOLO SLOW/FAST ..... FAST

⓰, ⓱



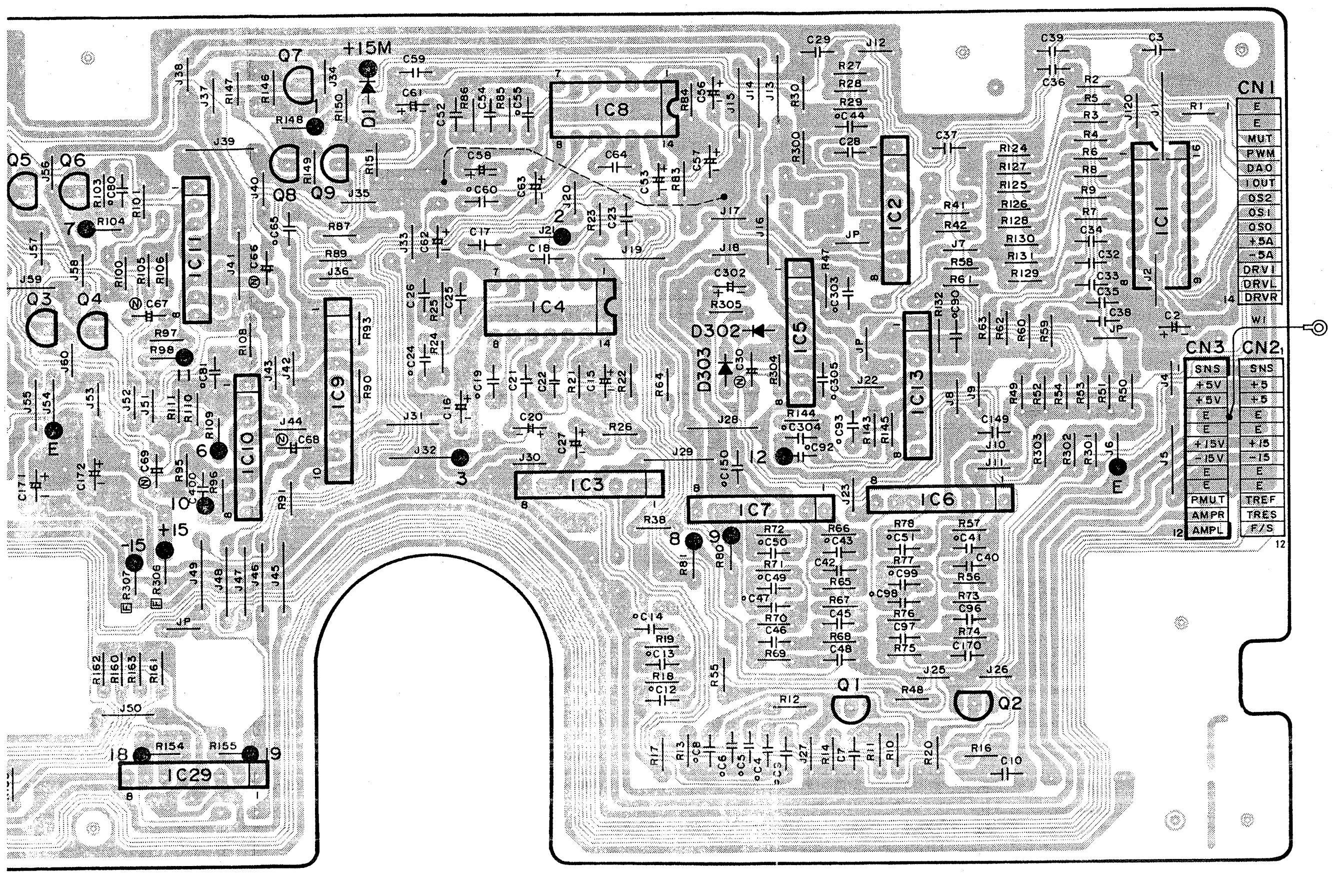
- Upper TAB & ORG

- TREMOLO SLOW/
- Upper Keyboard ..

CUIT BOARD

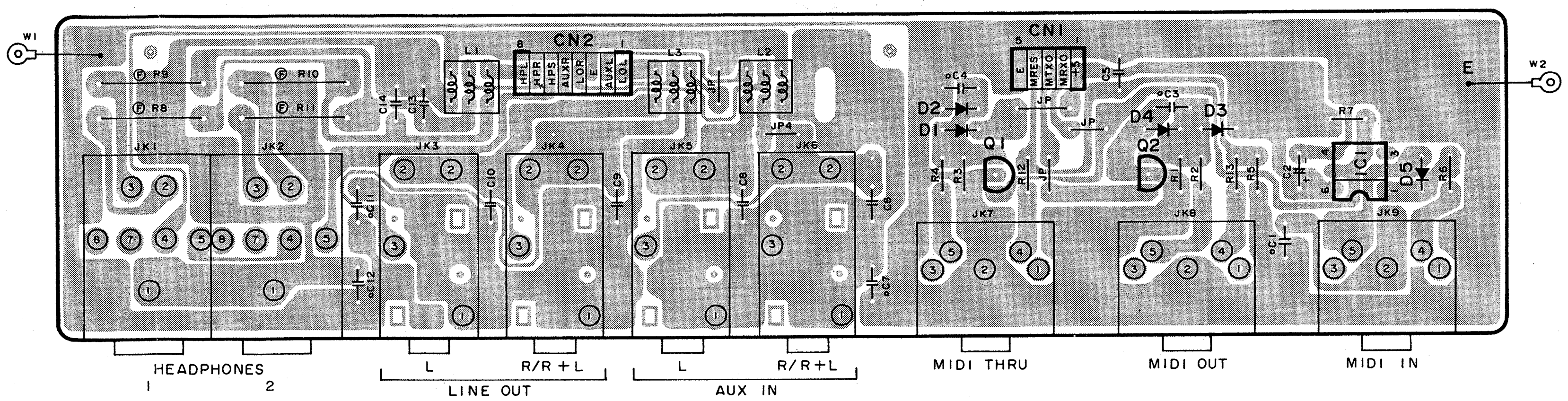
5 6 7 8 9 10 11 12 13 14

SXPG207561A


IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
IC11
IC13
IC29
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
Q9
D1
D302
D303
+15M
+15
-15
E
W1
CN1
E
E
MUT
PWM
DAO
I OUT
OS2
OS1
OS0
+5A
-5A
DRV1
DRVL
DRVR
CN3
SNS
+5V
+5V
E
E
+15V
-15V
E
E
PMUT
AMPR
AMPL
CN2
SNS
+5
+5
E
E
+15
-15
E
E
TREF
TRES
F/S

JK

SXPG207511B


W1
W2
E
CN1
CN2
L1
L2
L3
JK1
JK2
JK3
JK4
JK5
JK6
JK7
JK8
JK9
Q1
Q2
IC1
D1
D2
D3
D4
D5
HEADPHONES
1
2
L
R/R+L
LINE OUT
L
R/R+L
AUX IN
MIDI THRU
MIDI OUT
MIDI IN

ME

NOTES:

- IC'S

IC1:	SVIGT74H4051
IC2, 3, 5~7, 10~15, 22~24, 26, 27, 29:	SVIGM5218L
IC4, 8:	SVIGLM1894N
IC9:	SVIGM5241L
IC16~18:	MN3009
IC19~21:	SVIGMSM4011
IC25:	SVIGM5238L
IC28:	SVIGM74H4066

- TRANSISTORS

Q1, 2:	2SJ105GR
Q3, 5:	2SC3940ARS
Q4, 6:	2SA1534ARS
Q7:	2SA1015-GR
Q8~10:	2SC1815GR

- DIODES

D1:	EK04
D2:	MA4051MTA
D3~12, 302, 303:	MA165TA5

JK

NOTES:

- IC'S

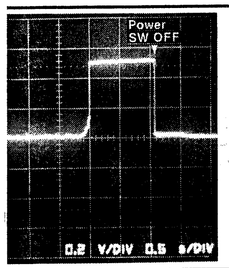
IC1:	SVIGTLP513

- TRANSISTORS

Q1, 2:	2SA1015-GR

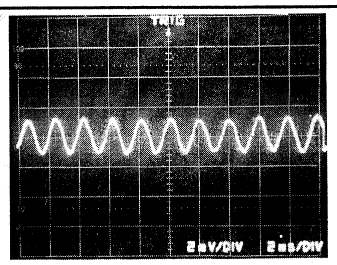
- DIODES

D1~5:	MA165TA5



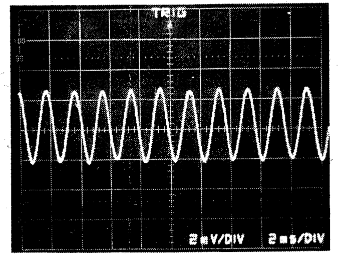
.... ON → OFF

❷



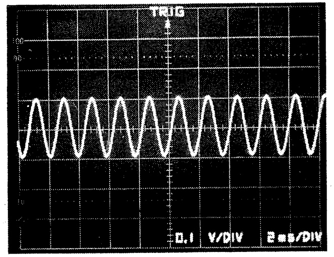
- Digital Reverb .... ROOM ON
- Upper Keyboard .... C₄ Key

❸



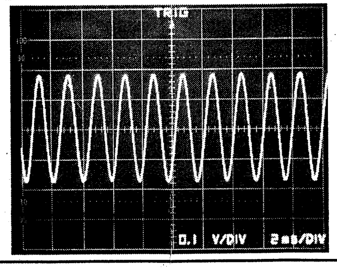
- Digital Reverb .... ROOM ON
- Upper Keyboard .... C₄ Key

❹



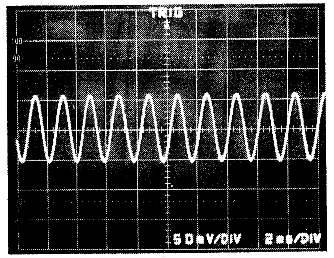
- Upper Keyboard .... C₄ Key
- MAIN VOLUME.......................... MAX
- EXP. PEDAL............................... MAX

❺



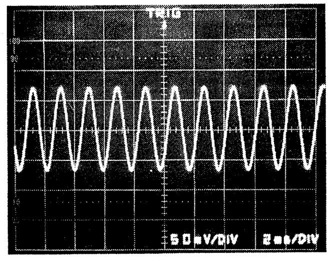
- Upper Keyboard .... C₄ Key
- MAIN VOLUME.......................... MAX
- EXP. PEDAL............................... MAX

❻



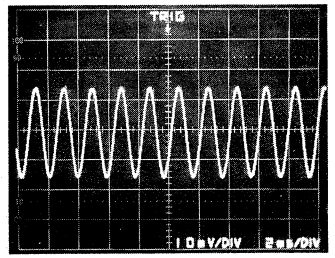
- Upper Keyboard .... C₄ Key
- MAIN VOLUME.......................... MAX
- EXP. PEDAL............................... MAX

❼

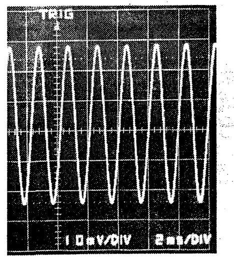


- Upper Keyboard .... C₄ Key
- MAIN VOLUME.......................... MAX
- EXP. PEDAL............................... MAX

❽

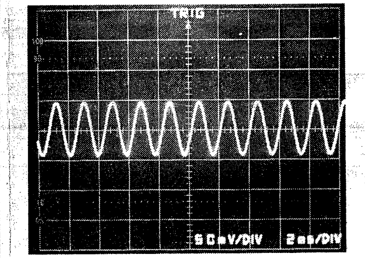


- Upper Keyboard .... C₄ Key



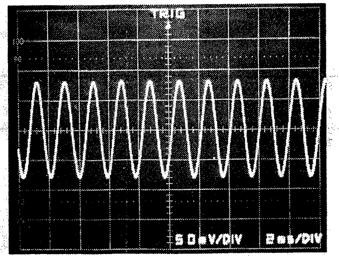
oard .... C₄ Key

❿



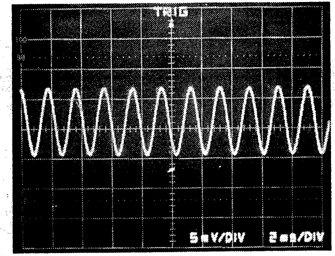
- Upper Keyboard .... C₄ Key
- MAIN VOLUME.......................... MAX
- EXP. PEDAL............................... MAX

⓫



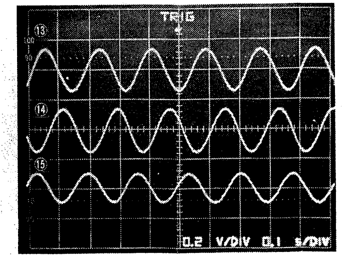
- Upper Keyboard .... C₄ Key
- MAIN VOLUME.......................... MAX
- EXP. PEDAL............................... MAX

⓬



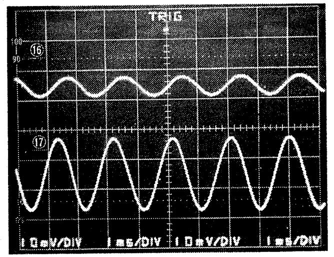
- Upper Keyboard .... C₄ Key

⓭, ⓮, ⓯



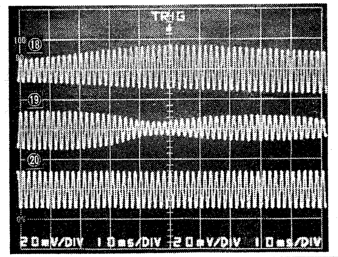
- TREMOLO SLOW/FAST .... FAST

⓰, ⓱



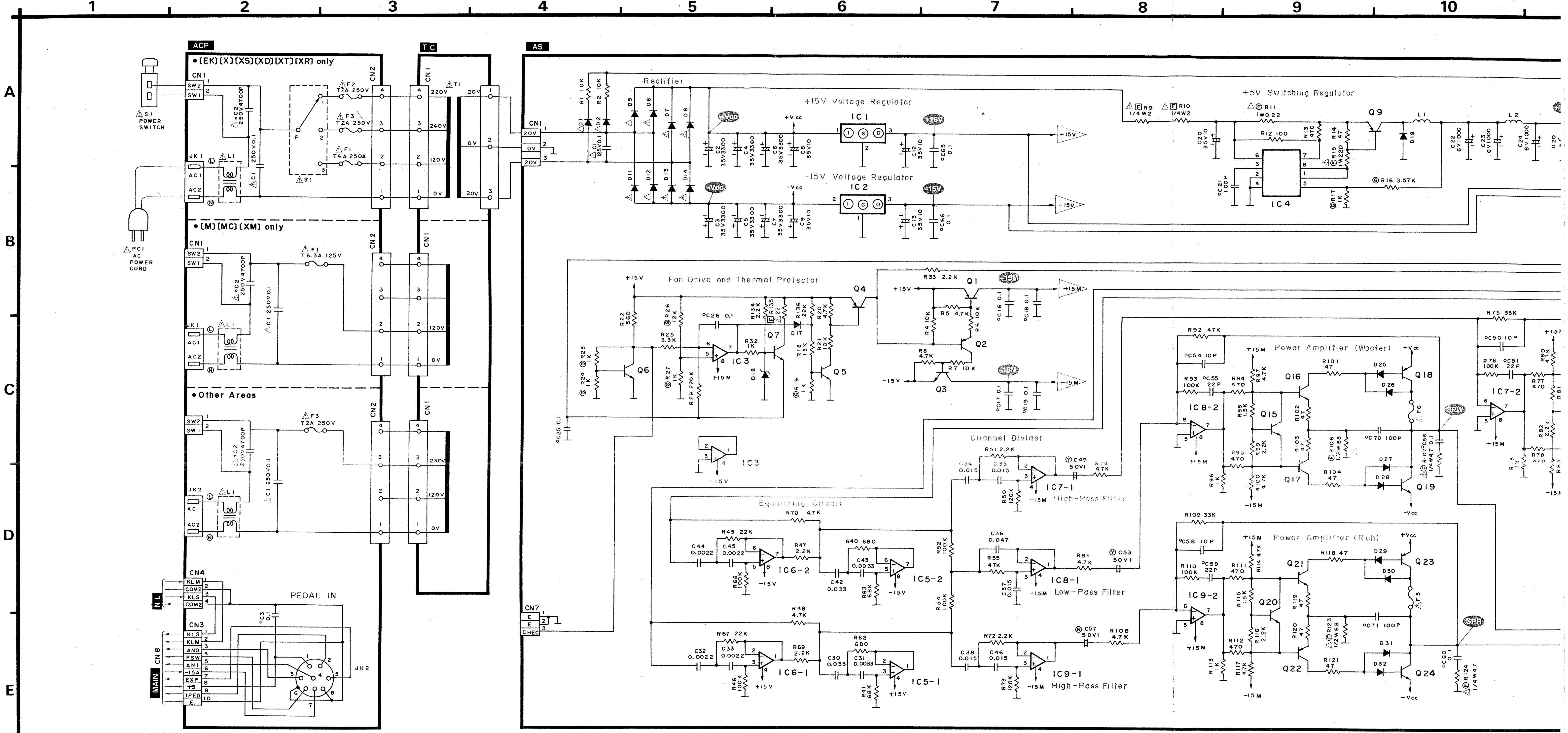
- Upper TAB & ORGAN .... TREMOLO ON
- TREMOLO SLOW/FAST .... FAST
- Upper Keyboard .... C₄ Key

⓲, ⓳, ⓴

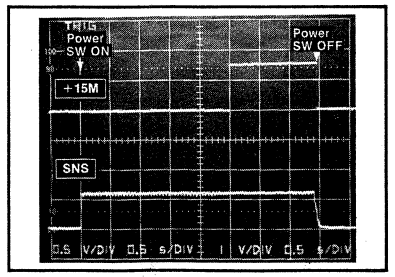


- Upper TAB & ORGAN .... TREMOLO ON
- TREMOLO SLOW/FAST .... FAST
- Upper Keyboard .... C₄ Key

ACP AS NW AC POWER SUPPLY, AMP & POWER SUPPLY AND NETWORK CIRCUIT DIAGRAM

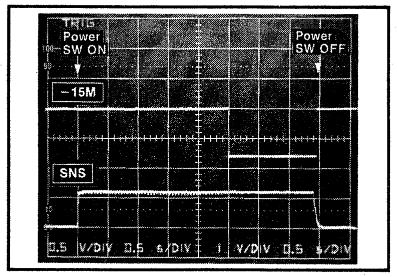

1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
ACP
TC
AS
• [EK] [X] [XS] [XD] [XT] [XR] only
• [M] [MC] [XM] only
• Other Areas
S1 POWER SWITCH
PC1 AC POWER CORD
Rectifier
+15V Voltage Regulator
-15V Voltage Regulator
+5V Switching Regulator
Fan Drive and Thermal Protector
Channel Divider
Equalizing Circuit
High-Pass Filter
Low-Pass Filter
Power Amplifier (Woofer)
Power Amplifier (Rch)
PEDAL IN
CN4
CN3
CN8
MAIN
NL
JK2
SPW
SPR

+15M



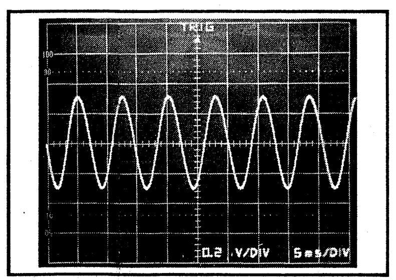
- Power SW.......................... ON → OFF

−15M



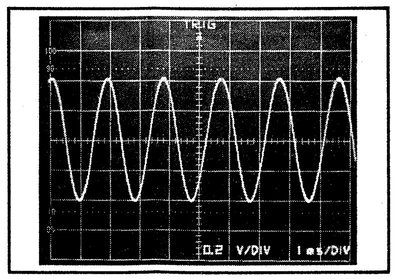
- Power SW.......................... ON → OFF

SPW



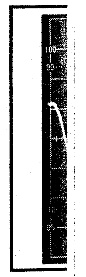
- BASS SOUND SELECT............ ORGAN
- VARIATION.............................. 1
- Pedal Keyboard....................... C2
- MAIN VOLUME......................... MAX
- EXP. PEDAL.............................. MAX

SPR



- Upper Keyboard....................... C_4 Key
- MAIN VOLUME......................... MAX
- EXP. PEDAL.............................. MAX

SPL

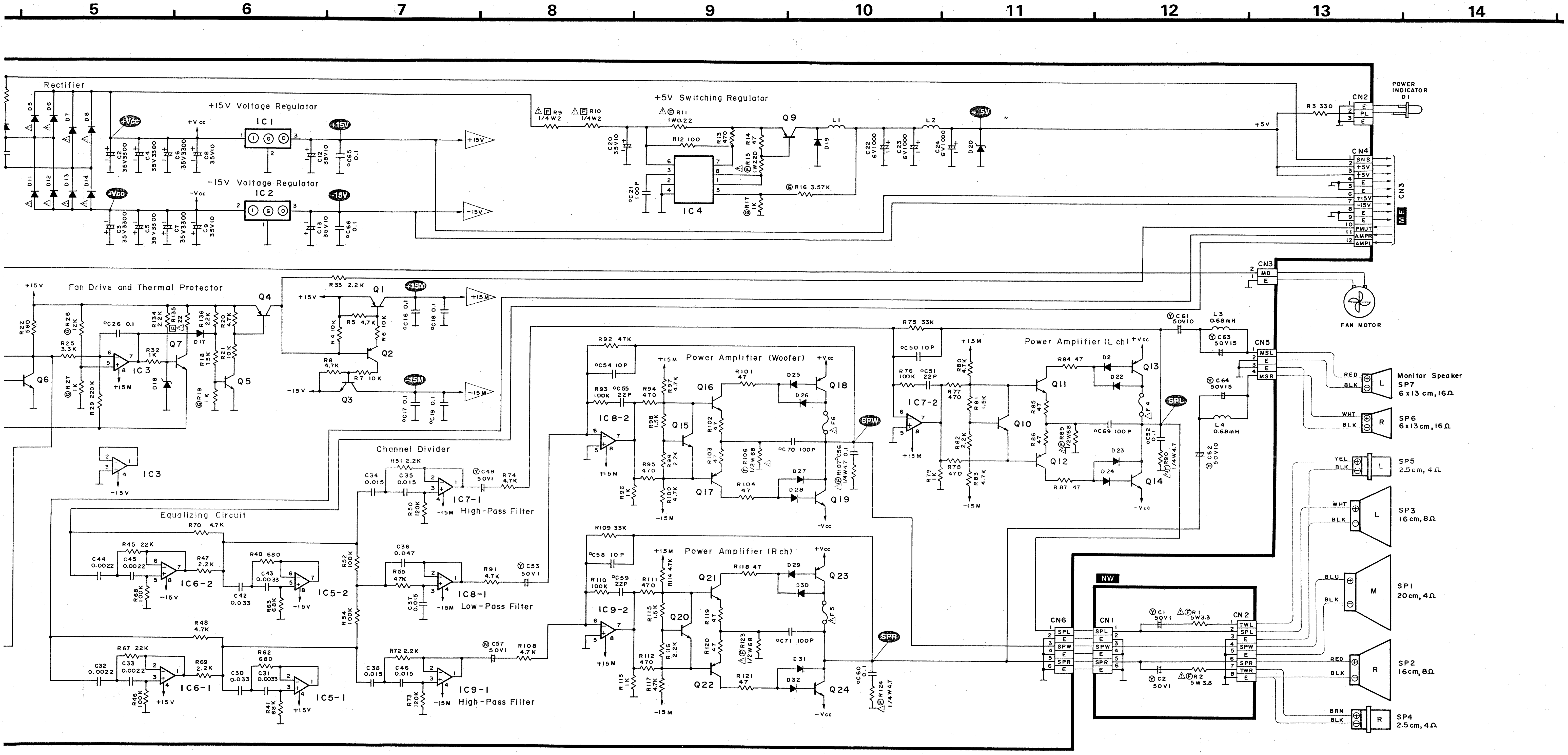


- U
- M
- E

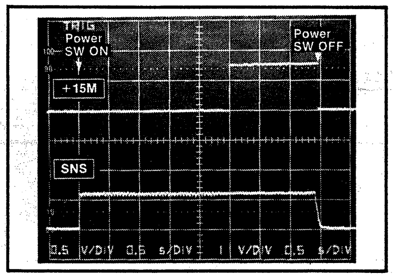
■ Waveform measurement

1. Activate the initial setting methode. (Refer to page I-7)
2. Set the E. organ to reference required mode as followings.
   - UPPER ORCHESTRAL CONDUCTOR..... TAB & ORGAN
   - UPPER TAB & ORGAN............................. FLUTE 8': ON
     FLUTE 16': OFF
     FLUTE 4': OFF
     FLUTE 2': OFF
   - TREMOLO... OFF
   - DIGITAL REVERB.................................. ALL OFF
3. Change the setting as indicate below the pictures to confirm the waveforms.

P & POWER SUPPLY AND NETWORK CIRCUIT DIAGRAM

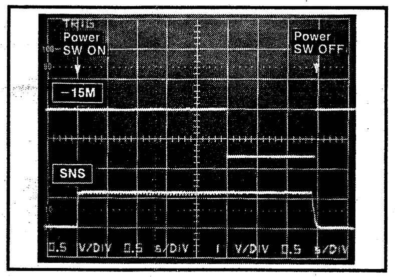

5
6
7
8
9
10
11
12
13
14
Rectifier
D5
D6
D7
D8
D11
D12
D13
D14
+Vcc
-Vcc
+15V Voltage Regulator
IC1
-15V Voltage Regulator
IC2
C2 35V3300
C4 35V3300
C6 35V3300
C8 35V10
C3 35V3300
C5 35V3300
C7 35V3300
C9 35V10
C12 35V10
C65 0.1
C13 35V10
C66 0.1
+15V
-15V
+5V Switching Regulator
R9 1/4W2
R10 1/4W2
R11 1W0.22
R12 100
R13 470
R14 47
R15 1W22Ω
R16 3.57K
R17 1K
C20 35V10
C21 100P
IC4
Q9
L1
D19
C22 6V1000
C23 6V1000
L2
C24 6V1000
D20
+5V
R3 330
CN2
PL
E
POWER INDICATOR
D1
CN4
SNS
+5V
+15V
-15V
PMUT
AMPR
AMPL
CN3
M E
CN3
MD
FAN MOTOR
+15V
Fan Drive and Thermal Protector
R22 560
R26 12K
R25 33K
C26 0.1
R134 2.2K
R135 22
R136 22K
R20 4.7K
R21 10K
R18 15K
R19 1K
R32 1K
IC3
Q7
D17
D18
Q4
Q5
Q6
R27 1K
R29 220K
+15M
R33 2.2K
Q1
+15M
R5 4.7K
R4 10K
R6 10K
C16 0.1
C18 0.1
Q2
R8 4.7K
R7 10K
Q3
-15M
C17 0.1
C19 0.1
-15V
IC3
Channel Divider
R51 2.2K
C34 0.015
C35 0.015
R50 120K
IC7-1
C49 50V1
R74 4.7K
High-Pass Filter
Equalizing Circuit
R70 4.7K
R45 22K
C44 0.0022
C45 0.0022
R47 2.2K
R68 100K
IC6-2
R40 680
C43 0.0033
C42 0.033
R63 68K
IC5-2
R52 100K
R54 100K
C36 0.047
R55 47K
C37 0.015
IC8-1
R91 4.7K
C53 50V1
Low-Pass Filter
R48 4.7K
R67 22K
C32 0.0022
C33 0.0022
R69 2.2K
R46 100K
IC6-1
R62 680
C30 0.033
C31 0.0033
R41 68K
IC5-1
R72 2.2K
C38 0.015
C46 0.015
R73 120K
IC9-1
C57 50V1
R108 4.7K
High-Pass Filter
R92 47K
C54 10P
R93 100K
C55 22P
R94 470
R97 4.7K
IC8-2
Power Amplifier (Woofer)
R101 47
D25
D26
Q16
Q18
Q15
R98 1.5K
R99 2.2K
R95 470
R96 1K
R100 4.7K
R102 47
R103 47
R106 1/2W68
C70 100P
R104 47
D27
D28
Q17
Q19
F6
R107 1/4W4.7
C56 0.1
SPW
R109 33K
C58 10P
R110 100K
C59 22P
R111 470
R114 4.7K
IC9-2
Power Amplifier (Rch)
R118 47
D29
D30
Q21
Q23
Q20
R115 1.5K
R116 2.2K
R119 47
R120 47
R123 1/2W68
C71 100P
F5
R112 470
R113 1K
R117 4.7K
R121 47
D31
D32
Q22
Q24
C60 0.1
R124 1/4W4.7
SPR
R75 33K
C50 10P
R76 100K
C51 22P
R77 470
R80 4.7K
IC7-2
Power Amplifier (L ch)
R84 47
D2
D22
Q11
Q13
Q10
R81 1.5K
R82 2.2K
R78 470
R79 1K
R83 4.7K
R85 47
R86 47
R89 1/2W68
C69 100P
F4
SPL
C52 0.1
R90 1/4W4.7
D23
D24
Q12
Q14
R87 47
C61 50V10
L3 0.68mH
C63 50V15
C64 50V15
L4 0.68mH
C62 50V10
CN5
MSL
MSR
RED
BLK
WHT
Monitor Speaker
SP7
6×13 cm, 16Ω
SP6
6×13 cm, 16Ω
YEL
SP5
2.5 cm, 4Ω
SP3
16 cm, 8Ω
BLU
SP1
20 cm, 4Ω
SP2
16 cm, 8Ω
BRN
SP4
2.5 cm, 4Ω
NW
CN6
CN1
CN2
SPL
SPW
SPR
TWL
TWR
C1 50V1
R1 5W3.3
C2 50V1
R2 5W3.3
+Vcc
-Vcc
-15M

+15M



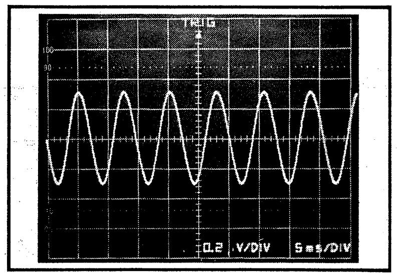
- Power SW.............................. ON → OFF

−15M



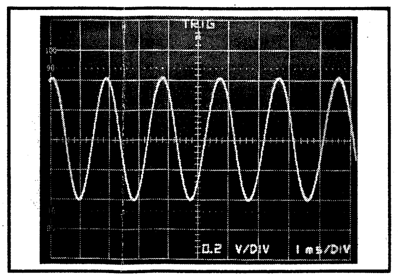
- Power SW.............................. ON → OFF

SPW



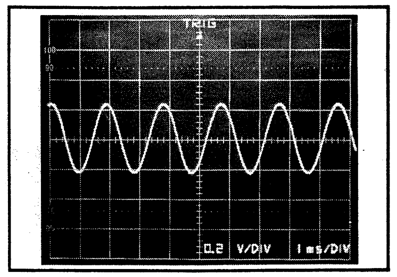
- BASS SOUND SELECT............. ORGAN
- VARIATION................................ 1
- Pedal Keyboard.......................... C2
- MAIN VOLUME.......................... MAX
- EXP. PEDAL............................... MAX

SPR



- Upper Keyboard......................... C_4 Key
- MAIN VOLUME.......................... MAX
- EXP. PEDAL............................... MAX

SPL



- Upper Keyboard......................... C_4 Key
- MAIN VOLUME.......................... MAX
- EXP. PEDAL............................... MAX

NOTES:

- IC'S

IC1:	SVIGM5F7815
IC2:	SVIGM5F7915
IC3, 5~9:	SVIGM5218L
IC4:	SVIGM5291P

- TRANSISTORS

Q1, 2, 4, 12, 17, 22:	2SA1015-GR
Q3, 5, 7, 10, 11, 15, 16, 20, 21:	2SC1815GR
Q6:	2SD1266P
Q9:	2SA1643
Q13, 18, 23:	2SB946P
Q14, 19, 24:	2SD1271P

- DIODES

D1, 2:	SVDGERA1502
D5~8, 11~14:	SVDS3V20
D17, 21~32:	MA167TA5
D18:	MA4082
D19:	SVDGRK14S
D20:	MA2062LF

- FUSES

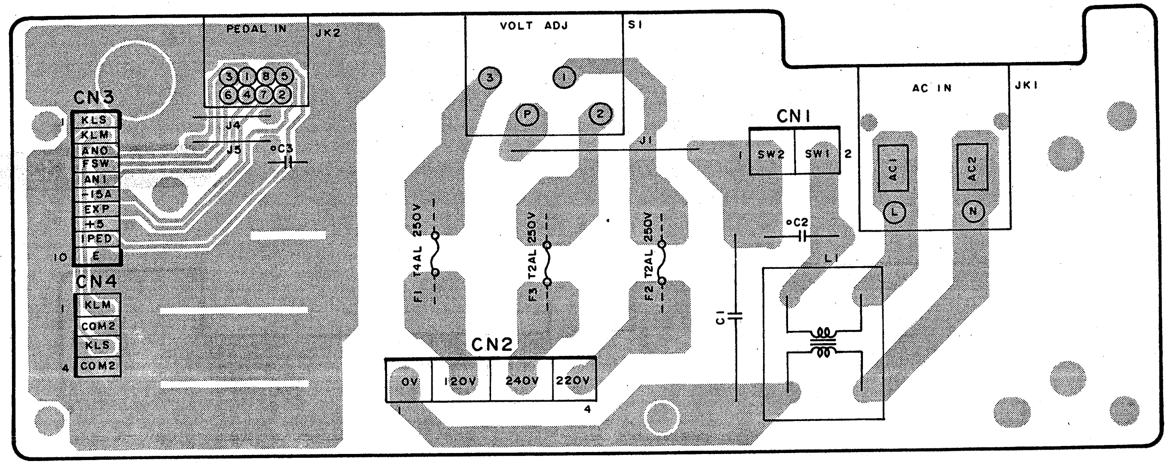
F4~6:	XBA1C25NU100 M MC XM
F4~6:	XBA2C20TB0 Others

ACP **AS** **NW**

AC POWER SUPPLY, AMP & POWER SUPPLY AND NETWORK CIRCUIT BOARD

1 2 3 4 5 6 7 8 9 10

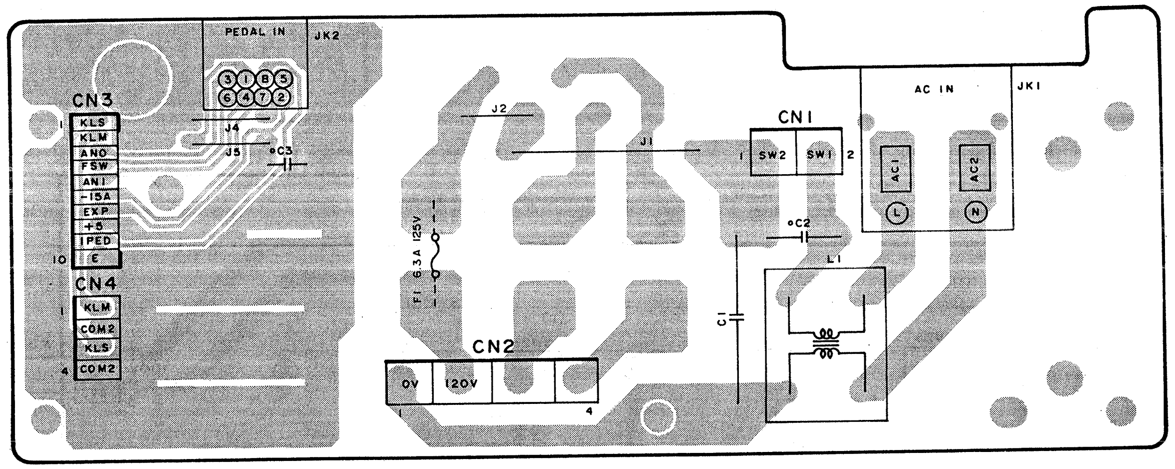
ACP • [EK] [X] [XS] [XD] [XT] areas **SXPG213331C** • [XR] area **SXPG213351C**



PEDAL IN
JK2
VOLT ADJ
S1
CN3
KLS
KLM
ANO
FSW
AN1
-15A
EXP
+5
IPED
E
CN4
KLM
COM2
KLS
COM2
J4
J5
C3
J1
F1 T4AL 250V
F3 T2AL 250V
F2 T2AL 250V
CN1
SW2
SW1
AC IN
JK1
AC1
AC2
L
N
C2
C1
L1
CN2
0V
120V
240V
220V

• FUSE
F1: XBA2C40TB0 F2, 3: XBA2C20TB0

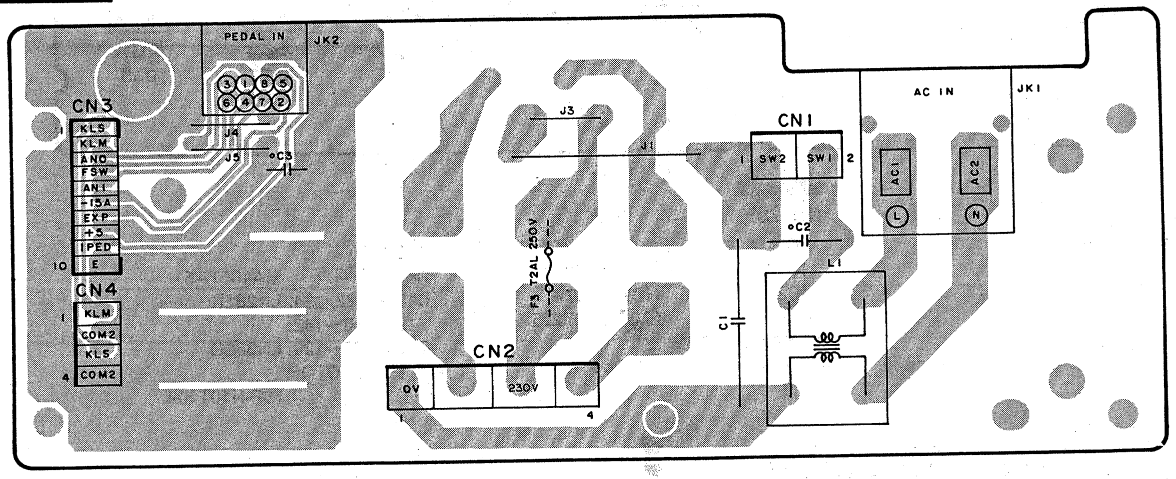
ACP • [M] [MC] [XM] areas **SXPG213321C**



PEDAL IN
JK2
CN3
KLS
KLM
ANO
FSW
AN1
-15A
EXP
+5
IPED
E
CN4
KLM
COM2
KLS
COM2
J2
J4
J5
C3
J1
F1 6.3A 125V
CN1
SW2
SW1
AC IN
JK1
AC1
AC2
L
N
C2
C1
L1
CN2
0V
120V

• FUSE
F1: XBA1C63NU100

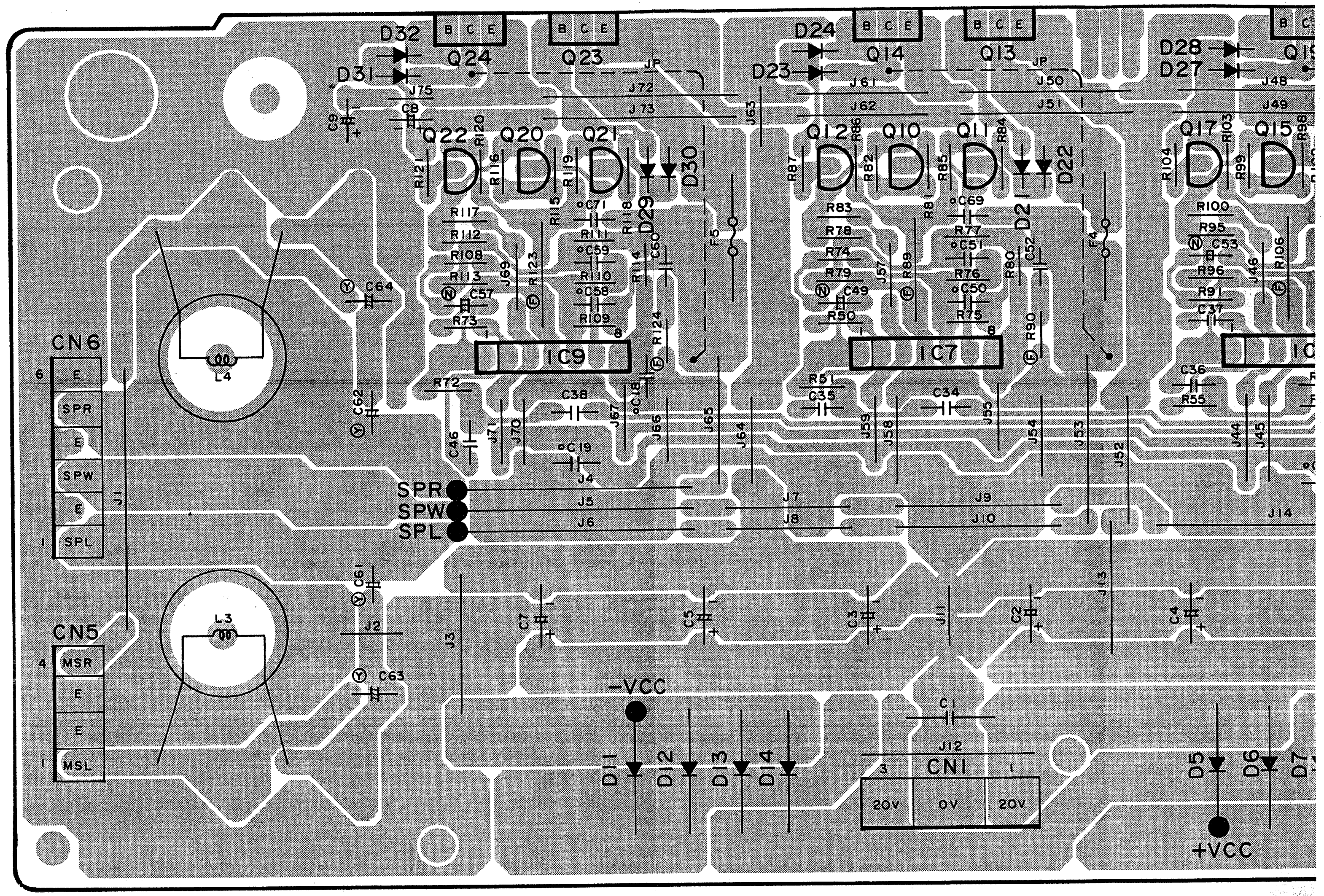
ACP • [XL] area **SXPG213341C** • Other areas **SXPG213311C**



PEDAL IN
JK2
CN3
KLS
KLM
ANO
FSW
AN1
-15A
EXP
+5
IPED
E
CN4
KLM
COM2
KLS
COM2
J3
J4
J5
C3
J1
F3 T2AL 250V
CN1
SW2
SW1
AC IN
JK1
AC1
AC2
L
N
C2
C1
L1
CN2
0V
230V

• FUSE
F3: XBA2C20TB0

AS • [EZ] [XL] areas **SXPG213331A** • [M] [



D32
D31
Q24
Q23
D24
Q14
Q13
D23
D28
D27
Q22
Q20
Q21
Q12
Q10
Q11
Q17
Q15
D30
D29
D22
D21
IC9
IC7
CN6
E
SPR
E
SPW
E
SPL
L4
L3
C64
C62
C61
C63
SPR
SPW
SPL
CN5
MSR
E
E
MSL
-VCC
+VCC
D11
D12
D13
D14
D5
D6
D7
C1
J12
CN1
20V
0V
20V
C7
C5
C3
C2
C4
J2
J3

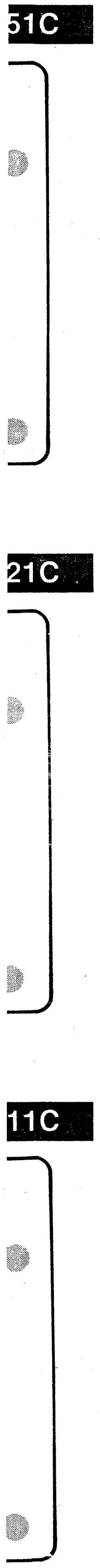
AS

NOTES:

- IC'S
  - IC1: SVIGM5F7815
  - IC2: SVIGM5F7915
  - IC3, 5~9: SVIGM5218L
  - IC4: SVIGM5291P
- TRANSISTORS
  - Q1, 2, 4, 12, 17, 22: 2SA1015-GR
  - Q3, 5, 7, 10, 11, 15, 16, 20, 21: 2SC1815GR
  - Q6: 2SD1266P
  - Q9: 2SA1643
  - Q13, 18, 23: 2SB946P
  - Q14, 19, 24: 2SD1271P
- DIODES
  - D1, 2: SVDGERA1502
  - D5~8, 11~14: SVDS3V20
  - D17, 21~32: MA167TA5
  - D18: MA4082
  - D19: SVDGRK14S
  - D20: MA2062LF
- FUSES
  - F4~6: XBA1C25NU100 **M** **MC** **XM**
  - F4~6: XBA2C20TB0 **Others**

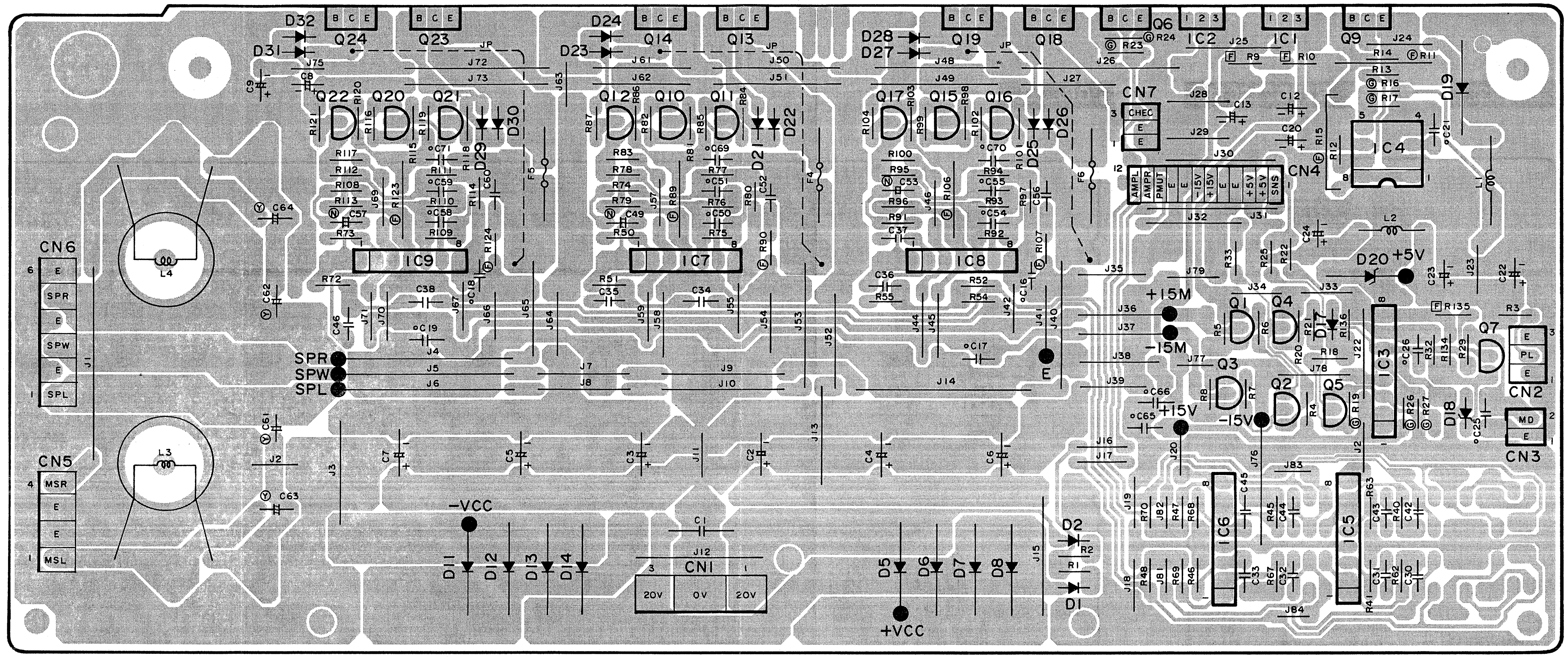
P & POWER SUPPLY AND NETWORK CIRCUIT BOARD

5 6 7 8 9 10 11 12 13 14



AS

• [EZ] [XL] areas **SXPG213331A** • [M] [MC] [XM] areas **SXPG213321A** • Other areas **SXPG213311A**



D32
D31
Q24
Q23
D24
D23
Q14
Q13
D28
D27
Q19
Q18
Q6
IC2
IC1
Q9
B C E
1 2 3
JP
J75
J72
J73
J61
J62
J63
J50
J51
J48
J49
J26
J27
J25
J24
R23
R24
R9
R10
R14
R11
R13
R16
R17
D19
C9
C8
Q22
Q20
Q21
D30
D29
Q12
Q10
Q11
D22
D21
Q17
Q15
Q16
D26
D25
CN7
CHEC
E
C13
C12
C20
R15
R12
IC4
C21
R120
R121
R116
R119
R115
R117
R112
R108
R113
C57
R73
C71
R111
C59
R110
C58
R109
R118
R114
C60
R123
J69
R124
F5
R86
R87
R82
R85
R81
R84
R83
R78
R74
R79
C49
R50
C69
R77
C51
R76
C50
R75
R89
J57
C52
R80
R90
F4
R103
R104
R99
R98
R102
R100
R95
C53
R96
R91
C37
C70
R94
C55
R93
C54
R92
R106
J46
R97
C56
R101
R107
F6
J28
J29
J30
CN4
AMPL AMPR PMUT E E -15V +15V E E +5V +5V SNS
J32
J31
L2
C24
R22
R25
R33
D20
+5V
C23
J23
C22
L1
CN6
E
SPR
E
SPW
E
SPL
J1
L4
C64
C62
IC9
IC7
IC8
R72
C38
C18
J71
J70
J67
J66
J65
J64
C46
C19
J4
R51
C35
C34
J59
J58
J55
J54
J53
J52
C36
R55
R52
R54
C16
J42
J41
J40
J44
J45
C17
J35
J79
J34
J33
+15M
J36
J37
-15M
J38
J39
J77
Q1
Q4
D17
R5
R6
R21
R136
R20
R18
R76
J22
IC3
C26
R32
R134
R29
R135
R3
Q7
PL
CN2
Q3
Q2
Q5
R8
R7
R4
R19
R26
R27
D18
C25
MD
CN3
C66
C65
+15V
-15V
SPR
SPW
SPL
J5
J6
J7
J8
J9
J10
J14
E
CN5
MSR
MSL
L3
C61
C63
J2
J3
C7
C5
C3
J11
C2
J13
C4
C6
-VCC
C1
J12
CN1
20V
0V
20V
D11
D12
D13
D14
D5
D6
D7
D8
+VCC
J15
D2
R2
R1
D1
J16
J17
J20
J76
J19
R70
J82
R47
R68
IC6
C45
R45
C44
J83
IC5
R63
C43
R40
C42
J18
R48
J81
R69
R46
C33
R67
C32
C31
R62
C30
R41
J84

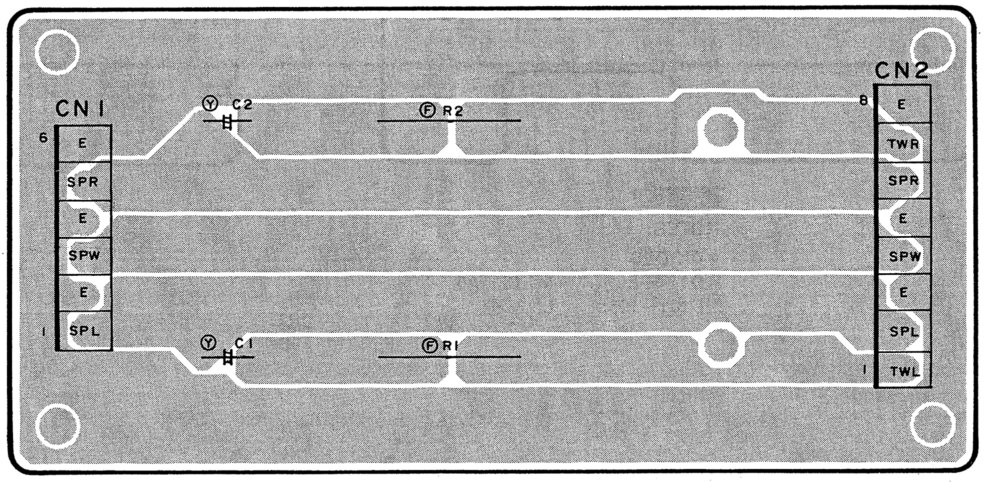
AS

NOTES:

• IC'S	
IC1:	SVIGM5F7815
IC2:	SVIGM5F7915
IC3, 5∼9:	SVIGM5218L
IC4:	SVIGM5291P
• TRANSISTORS	
Q1, 2, 4, 12, 17, 22:	2SA1015-GR
Q3, 5, 7, 10, 11, 15, 16, 20, 21:	2SC1815GR
Q6:	2SD1266P
Q9:	2SA1643
Q13, 18, 23:	2SB946P
Q14, 19, 24:	2SD1271P

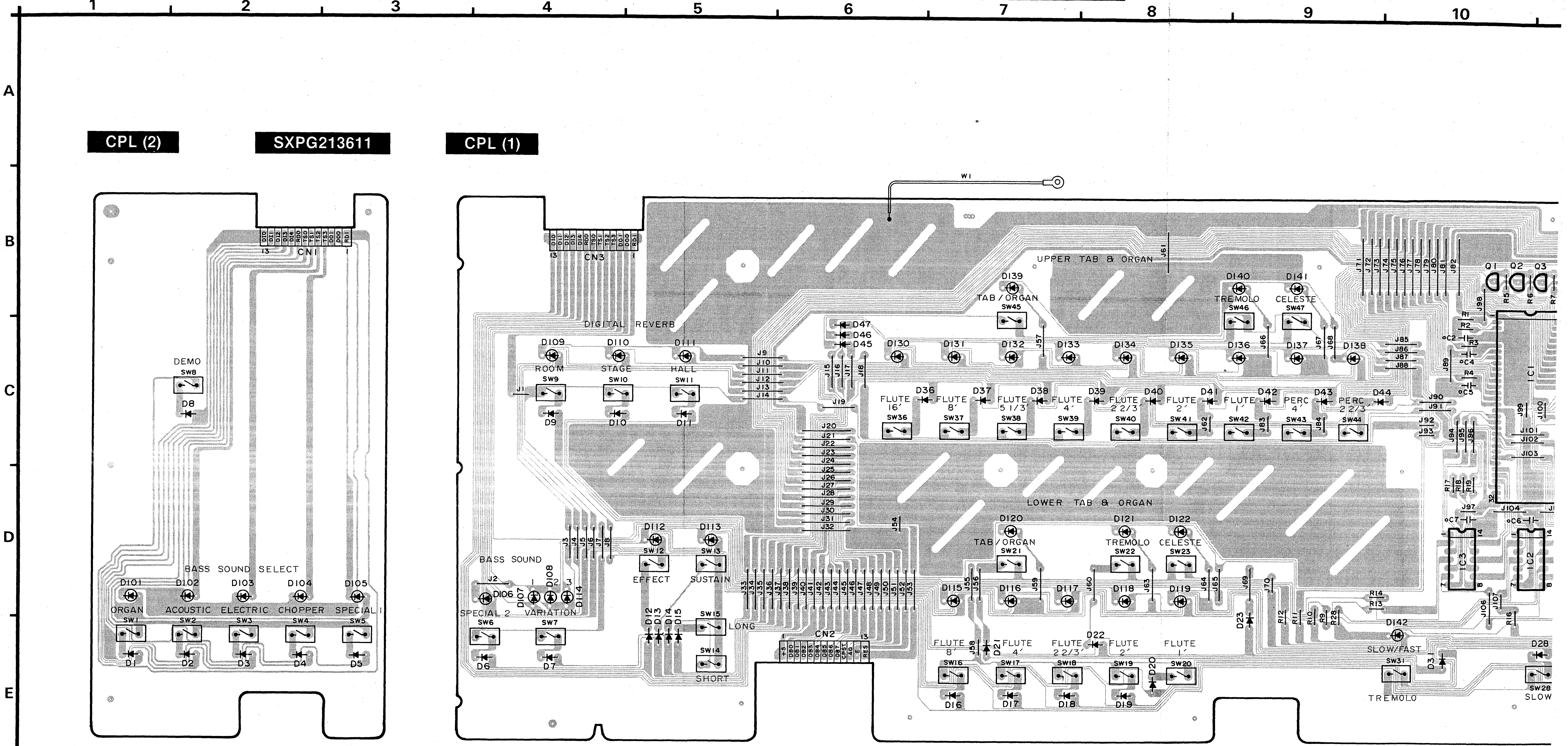
• DIODES	
D1, 2:	SVDGERA1502
D5∼8, 11∼14:	SVDS3V20
D17, 21∼32:	MA167TA5
D18:	MA4082
D19:	SVDGRK14S
D20:	MA2062LF
• FUSES	
F4∼6:	XBA1C25NU100 M MC XM
F4∼6:	XBA2C20TB0 Others

NW **SXPG213311D**



CN1
6
E
SPR
E
SPW
E
SPL
1
C2
R2
C1
R1
CN2
8
E
TWR
SPR
E
SPW
E
SPL
TWL
1

CPL (1) CPL (2) UPPER CONTROL PANEL LEFT (1) AND LEFT (2) CIRCUIT BOARD

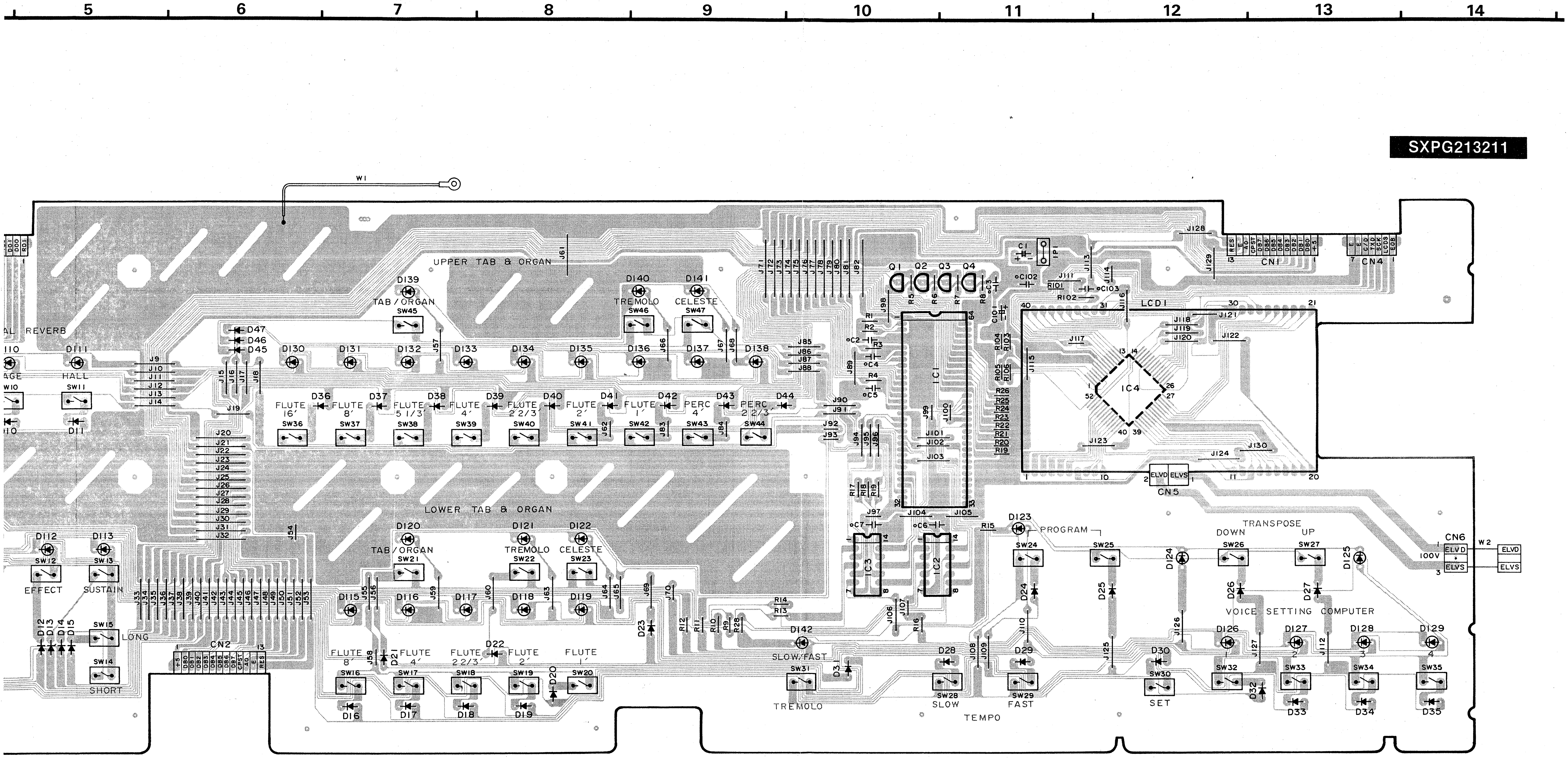

1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
CPL (2)
SXPG213611
CPL (1)
W1
CN1
CN2
CN3
DEMO
SW8
D8
BASS SOUND SELECT
D101
D102
D103
D104
D105
ORGAN
ACOUSTIC
ELECTRIC
CHOPPER
SPECIAL 1
SW1
SW2
SW3
SW4
SW5
D1
D2
D3
D4
D5
DIGITAL REVERB
D109
D110
D111
ROOM
STAGE
HALL
SW9
SW10
SW11
D9
D10
D11
BASS SOUND
D106
D107
D108
D114
SPECIAL 2
VARIATION
SW6
SW7
D6
D7
D112
D113
SW12
SW13
EFFECT
SUSTAIN
D12
D13
D14
D15
SW15
LONG
SW14
SHORT
UPPER TAB & ORGAN
D139
TAB / ORGAN
SW45
D140
D141
TREMOLO
CELESTE
SW46
SW47
D47
D46
D45
D130
D131
D132
D133
D134
D135
D136
D137
D138
D36
D37
D38
D39
D40
D41
D42
D43
D44
FLUTE 16′
FLUTE 8′
FLUTE 5 1/3′
FLUTE 4′
FLUTE 2 2/3′
FLUTE 2′
FLUTE 1′
PERC 4′
PERC 2 2/3′
SW36
SW37
SW38
SW39
SW40
SW41
SW42
SW43
SW44
LOWER TAB & ORGAN
D120
TAB / ORGAN
SW21
D121
D122
TREMOLO
CELESTE
SW22
SW23
D115
D116
D117
D118
D119
FLUTE 8′
FLUTE 4′
FLUTE 2 2/3′
FLUTE 2′
FLUTE 1′
SW16
SW17
SW18
SW19
SW20
D16
D17
D18
D19
D20
D21
D22
D23
D142
SLOW/FAST
SW31
D3
TREMOLO
D28
SW28
SLOW
Q1
Q2
Q3
IC1
IC2
IC3
R1
R2
R3
R4
R5
R6
R7
R9
R10
R11
R12
R13
R14
R16
R17
R18
R19
R28
C2
C4
C5
C6
C7

CPL (2)

NOTES:

- DIODES
  - D1~5, 8: MA165TA5
  - D101~105: LN282R

LEFT (1) AND LEFT (2) CIRCUIT BOARD


5
6
7
8
9
10
11
12
13
14
SXPG213211
W1
W2
UPPER TAB & ORGAN
LOWER TAB & ORGAN
TAB/ORGAN
TREMOLO
CELESTE
REVERB
HALL
EFFECT
SUSTAIN
LONG
SHORT
FLUTE 16′
FLUTE 8′
FLUTE 5 1/3′
FLUTE 4′
FLUTE 2 2/3′
FLUTE 2′
FLUTE 1′
PERC 4′
PERC 2 2/3′
FLUTE 8′
FLUTE 4′
FLUTE 2 2/3′
FLUTE 2′
FLUTE 1′
SLOW/FAST
TREMOLO
SLOW
FAST
TEMPO
PROGRAM
TRANSPOSE
DOWN
UP
SET
VOICE SETTING COMPUTER
IC1
IC2
IC3
IC4
LCD1
IP1
Q1
Q2
Q3
Q4
CN1
CN2
CN4
CN5
CN6
ELVD
ELVS
100V
SW10
SW11
SW12
SW13
SW14
SW15
SW16
SW17
SW18
SW19
SW20
SW21
SW22
SW23
SW24
SW25
SW26
SW27
SW28
SW29
SW30
SW31
SW32
SW33
SW34
SW35
SW36
SW37
SW38
SW39
SW40
SW41
SW42
SW43
SW44
SW45
SW46
SW47
D110
D111
D112
D113
D115
D116
D117
D118
D119
D120
D121
D122
D123
D124
D125
D126
D127
D128
D129
D130
D131
D132
D133
D134
D135
D136
D137
D138
D139
D140
D141
D142
1
2
3
4

CPL (1)

NOTES:

- IC'S

IC1:	SVIGM603A121
IC2, 3:	HD74LS07P
IC4:	SVIGUPD7225

- TRANSISTORS

Q1~4:	2SA830SB

- DIODES

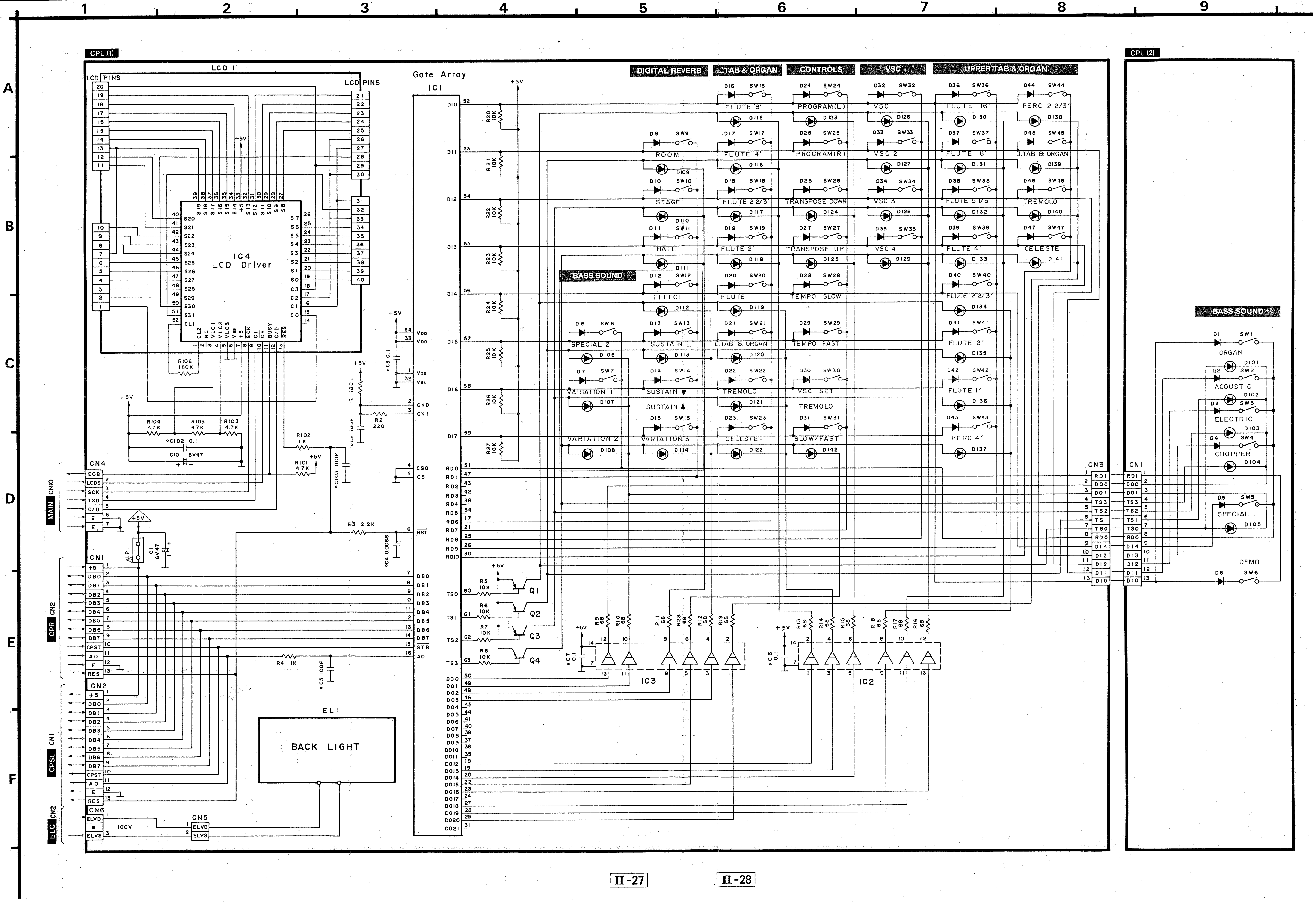
D6, 7, 9~47:	MA165TA5
D106~122, 124, 125, 130~142:	LN282R
D123, 126~129:	LN382G

- IC PROTECTOR

IP1:	ICP-N10T104

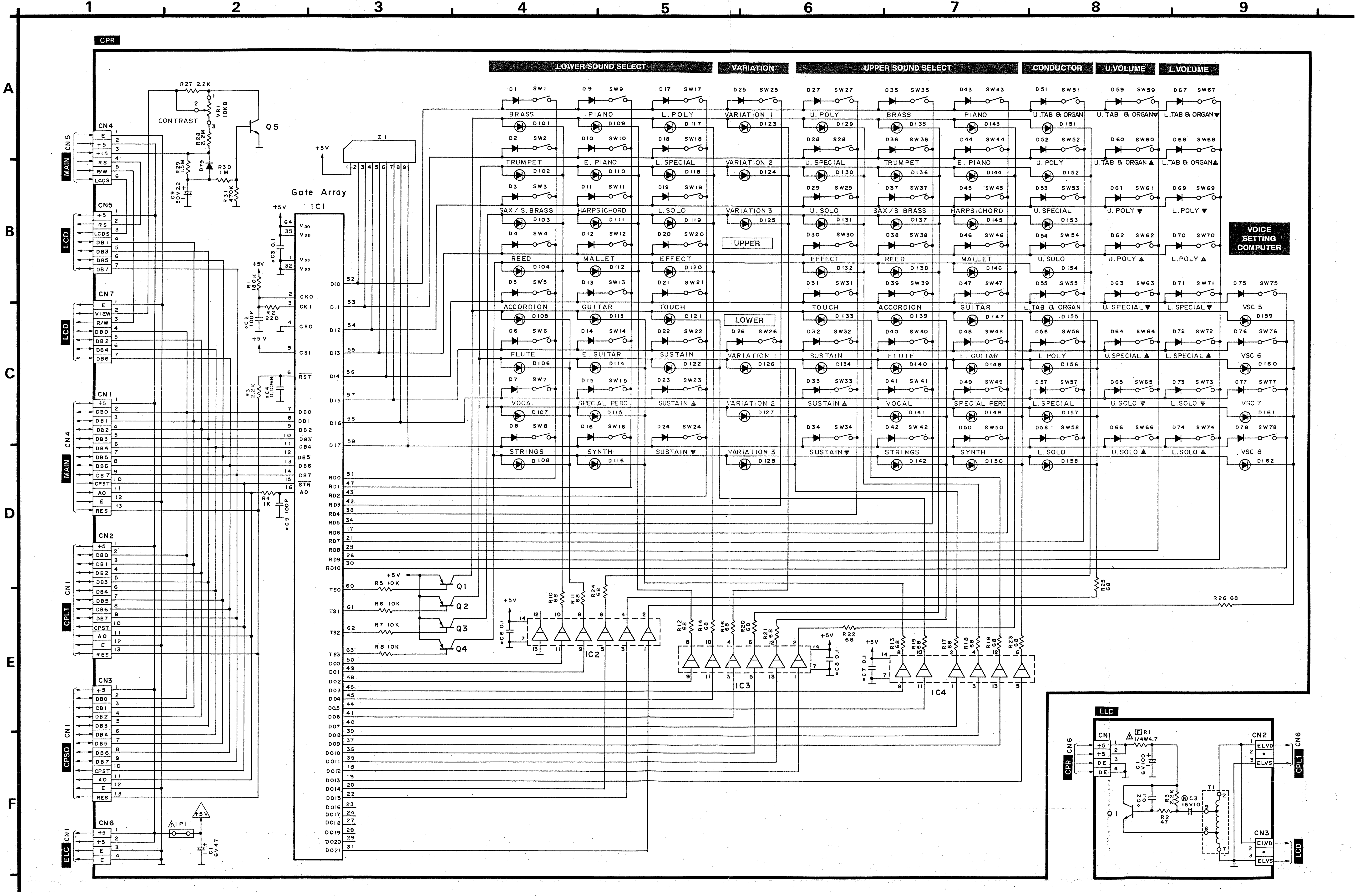
CPL (1) **CPL (2)**

UPPER CONTROL PANEL LEFT (1) AND LEFT (2) CIRCUIT DIAGRAM



1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
CPL (1)
CPL (2)
LCD 1
LCD PINS
IC4
LCD Driver
Gate Array
IC1
DIGITAL REVERB
L.TAB & ORGAN
CONTROLS
VSC
UPPER TAB & ORGAN
BASS SOUND
SW16 FLUTE 8'
SW24 PROGRAM(L)
SW32 VSC 1
SW36 FLUTE 16'
SW44 PERC 2 2/3'
SW9 ROOM
SW17 FLUTE 4'
SW25 PROGRAM(R)
SW33 VSC 2
SW37 FLUTE 8'
SW45 U.TAB & ORGAN
SW10 STAGE
SW18 FLUTE 2 2/3'
SW26 TRANSPOSE DOWN
SW34 VSC 3
SW38 FLUTE 5 1/3'
SW46 TREMOLO
SW11 HALL
SW19 FLUTE 2'
SW27 TRANSPOSE UP
SW35 VSC 4
SW39 FLUTE 4'
SW47 CELESTE
SW12 EFFECT
SW20 FLUTE 1'
SW28 TEMPO SLOW
SW40 FLUTE 2 2/3'
SW6 SPECIAL 2
SW13 SUSTAIN
SW21 L.TAB & ORGAN
SW29 TEMPO FAST
SW41 FLUTE 2'
SW7 VARIATION 1
SW14 SUSTAIN ▼
SUSTAIN ▲
SW22 TREMOLO
SW30 VSC SET
TREMOLO
SW42 FLUTE 1'
VARIATION 2
SW15 VARIATION 3
SW23 CELESTE
SW31 SLOW/FAST
SW43 PERC 4'
R20 10K
R21 10K
R22 10K
R23 10K
R24 10K
R25 10K
R26 10K
R27 10K
R106 180K
R104 4.7K
R105 4.7K
R103 4.7K
C102 0.1
C101 6V47
R102 1K
R101 4.7K
C103 100P
R1 180K
C2 100P
R2 220
C3 0.1
R3 2.2K
C4 0.0068
ALP1
C1 6V47
R4 1K
C5 100P
R5 10K
R6 10K
R7 10K
R8 10K
Q1
Q2
Q3
Q4
R9 68
R10 68
R11 68
R28 68
R12 68
R19 68
R13 68
R14 68
R15 68
R18 68
R17 68
R16 68
C7 0.1
C6 0.1
IC3
IC2
+5V
EL1
BACK LIGHT
CN4
MAIN CN10
EOB
LCDS
SCK
TXD
C/D
E
E
CN1
CPR CN2
CN2
CPSL CN1
+5
DB0
DB1
DB2
DB3
DB4
DB5
DB6
DB7
CPST
A0
E
RES
CN6
ELC CN2
ELVD
ELVS
100V
CN5
CN3
RD1
DO0
DO1
TS3
TS2
TS1
TS0
RD0
D14
D13
D12
D11
D10
SW1 ORGAN
SW2 ACOUSTIC
SW3 ELECTRIC
SW4 CHOPPER
SW5 SPECIAL 1
DEMO
SW6

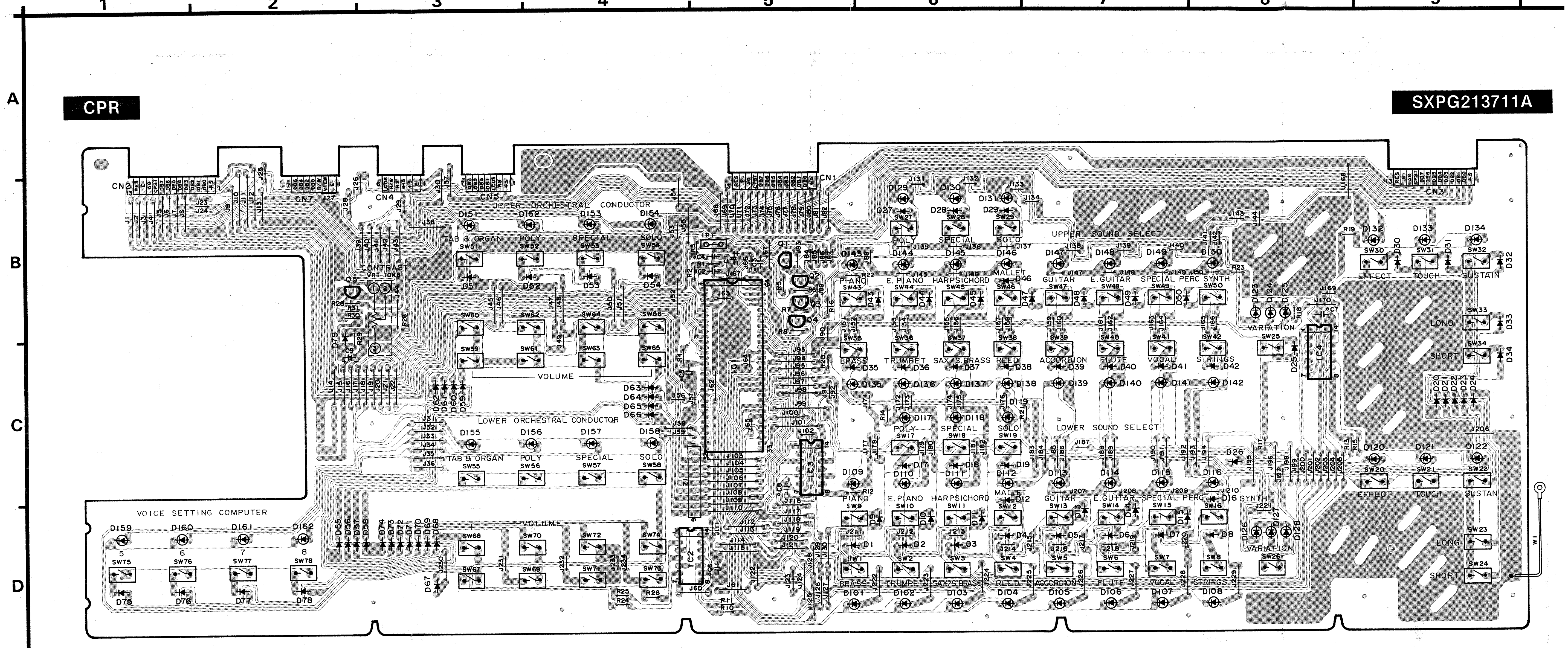
CPR ELC UPPER CONTROL PANEL RIGHT AND EL CONVERTER CIRCUIT DIAGRAM



1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
CPR
LOWER SOUND SELECT
VARIATION
UPPER SOUND SELECT
CONDUCTOR
U.VOLUME
L.VOLUME
VOICE SETTING COMPUTER
CONTRAST
R27 2.2K
VR1 10KB
R28 2.2M
Q5
R29 1.5M
D79
R30 1M
R31 470K
C9 50V2.2
Z1
+5V
Gate Array
IC1
VDD
VSS
CK0
CK1
CS0
CS1
RST
DB0
DB1
DB2
DB3
DB4
DB5
DB6
DB7
STR
A0
DI0
DI1
DI2
DI3
DI4
DI5
DI6
DI7
RD0
RD1
RD2
RD3
RD4
RD5
RD6
RD7
RD8
RD9
RD10
TS0
TS1
TS2
TS3
DO0
DO1
DO2
DO3
DO4
DO5
DO6
DO7
DO8
DO9
DO10
DO11
DO12
DO13
DO14
DO15
DO16
DO17
DO18
DO19
DO20
DO21
C3 0.1
R1 10K
C2 100P
R2 220
R3 2.2K
C4 0.0068
R4 1K
C5 100P
CN4
CN5
MAIN
E
+5
+15
RS
R/W
LCDS
CN5
LCD
DB1
DB3
DB5
DB7
CN7
VIEW
DB0
DB2
DB4
DB6
CN1
CPST
RES
CN2
CPL1
CN3
CPSO
CN6
ELC
ΔIP1
C1 6V47
R5 10K
R6 10K
R7 10K
R8 10K
Q1
Q2
Q3
Q4
C6 0.1
R10 68
R11 68
R24 68
IC2
R12 68
R14 68
R16 68
R20 68
R21 68
R22 68
C8 0.1
IC3
C7 0.1
R13 68
R15 68
R17 68
R18 68
R19 68
R23 68
IC4
R25 68
R26 68
BRASS
TRUMPET
SAX / S. BRASS
REED
ACCORDION
FLUTE
VOCAL
STRINGS
PIANO
E. PIANO
HARPSICHORD
MALLET
GUITAR
E. GUITAR
SPECIAL PERC
SYNTH
L. POLY
L. SPECIAL
L. SOLO
EFFECT
TOUCH
SUSTAIN
SUSTAIN ▲
SUSTAIN ▼
VARIATION 1
VARIATION 2
VARIATION 3
UPPER
LOWER
U. POLY
U. SPECIAL
U. SOLO
SAX/S BRASS
U.TAB & ORGAN
L.TAB & ORGAN
U.TAB & ORGAN▼
L.TAB & ORGAN▼
U.TAB & ORGAN▲
L.TAB & ORGAN▲
U. POLY ▼
L. POLY ▼
U. POLY ▲
L.POLY ▲
U. SPECIAL ▼
L. SPECIAL ▼
U.SPECIAL ▲
L. SPECIAL ▲
U. SOLO ▼
L.SOLO ▼
U. SOLO ▲
L.SOLO ▲
VSC 5
VSC 6
VSC 7
VSC 8
ELC
ΔFR1 1/4W4.7
C1 6V100
DE
C2 0.1
R3 2.2K
C3 16V10
R2 47
T1
ELVD
ELVS
CN2
CN3

CPR **ELC**

UPPER CONTROL PANEL RIGHT AND EL CONVERTER CIRCUIT BOARD


1
2
3
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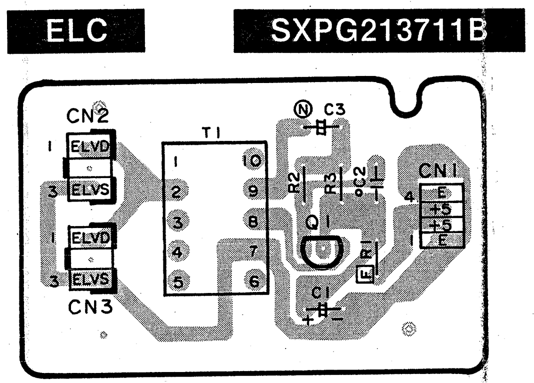
5
6
7
8
9
A
B
C
D
CPR
SXPG213711A
CN2
CN7
CN4
CN5
CN1
CN3
UPPER ORCHESTRAL CONDUCTOR
TAB & ORGAN
POLY
SPECIAL
SOLO
CONTRAST
VR1 10KB
VOLUME
LOWER ORCHESTRAL CONDUCTOR
VOICE SETTING COMPUTER
UPPER SOUND SELECT
LOWER SOUND SELECT
PIANO
E.PIANO
HARPSICHORD
MALLET
GUITAR
E.GUITAR
SPECIAL PERC
SYNTH
BRASS
TRUMPET
SAX/S.BRASS
REED
ACCORDION
FLUTE
VOCAL
STRINGS
VARIATION
EFFECT
TOUCH
SUSTAIN
LONG
SHORT
IC1
IC2
IC3
IC4
W1


E
F
ELC
SXPG213711B
CN2
CN3
CN1
T1
Q1
C1
C2
C3
R1
R2
R3
ELVD
ELVS
E
+5

CPR

NOTES:

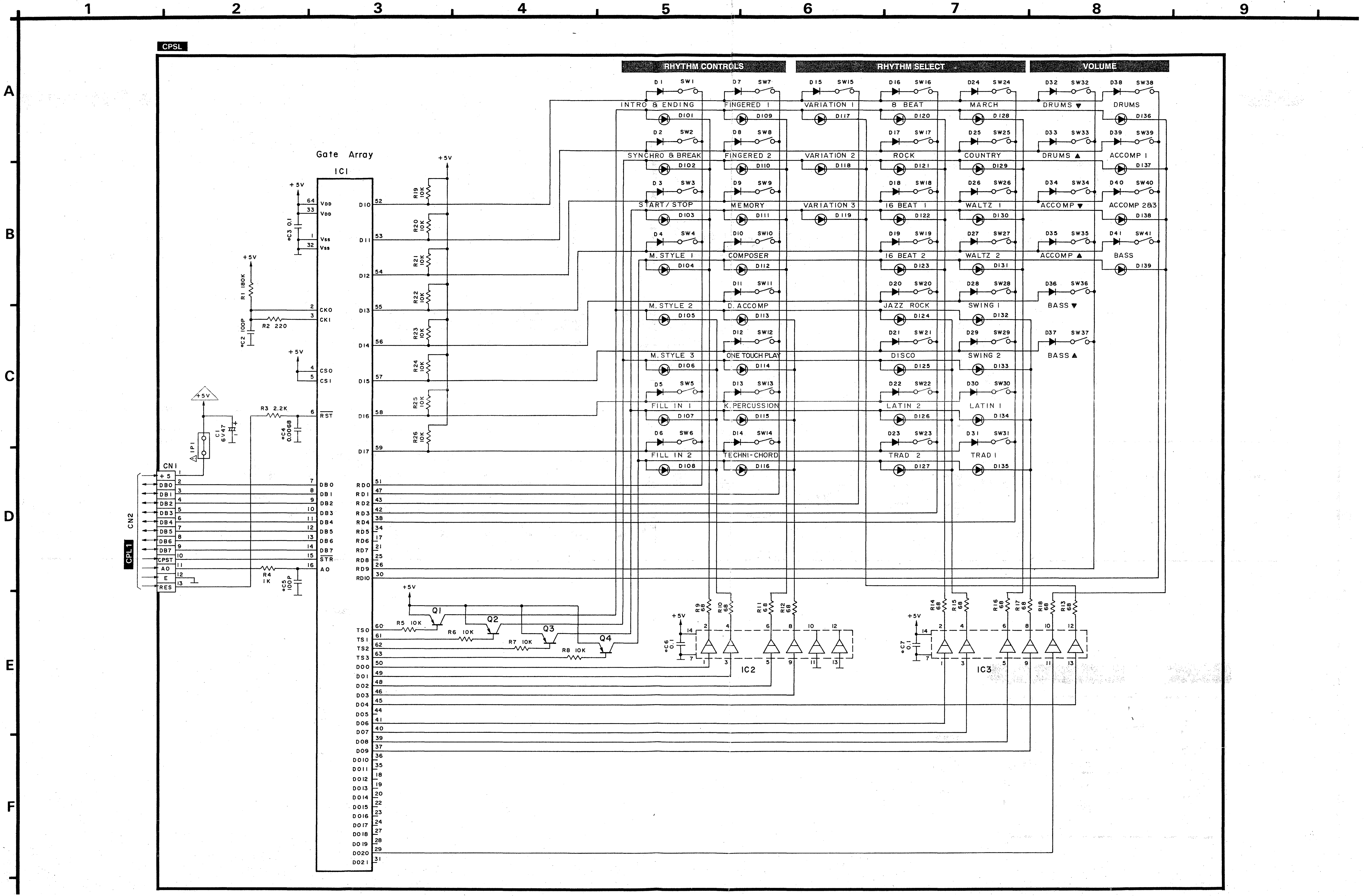
- IC'S
  - IC1: SVIGM603A121
  - IC2~4: HD74LS07P
- TRANSISTORS
  - Q1~4: 2SA830SB
  - Q5: 2SC2320LFG
- DIODES
  - D1~79: MA165TA5
  - D101~158: LN282R
  - D159~162: LN382G
- IC PROTECTOR
  - IP1: ICP-N10T104

ELC

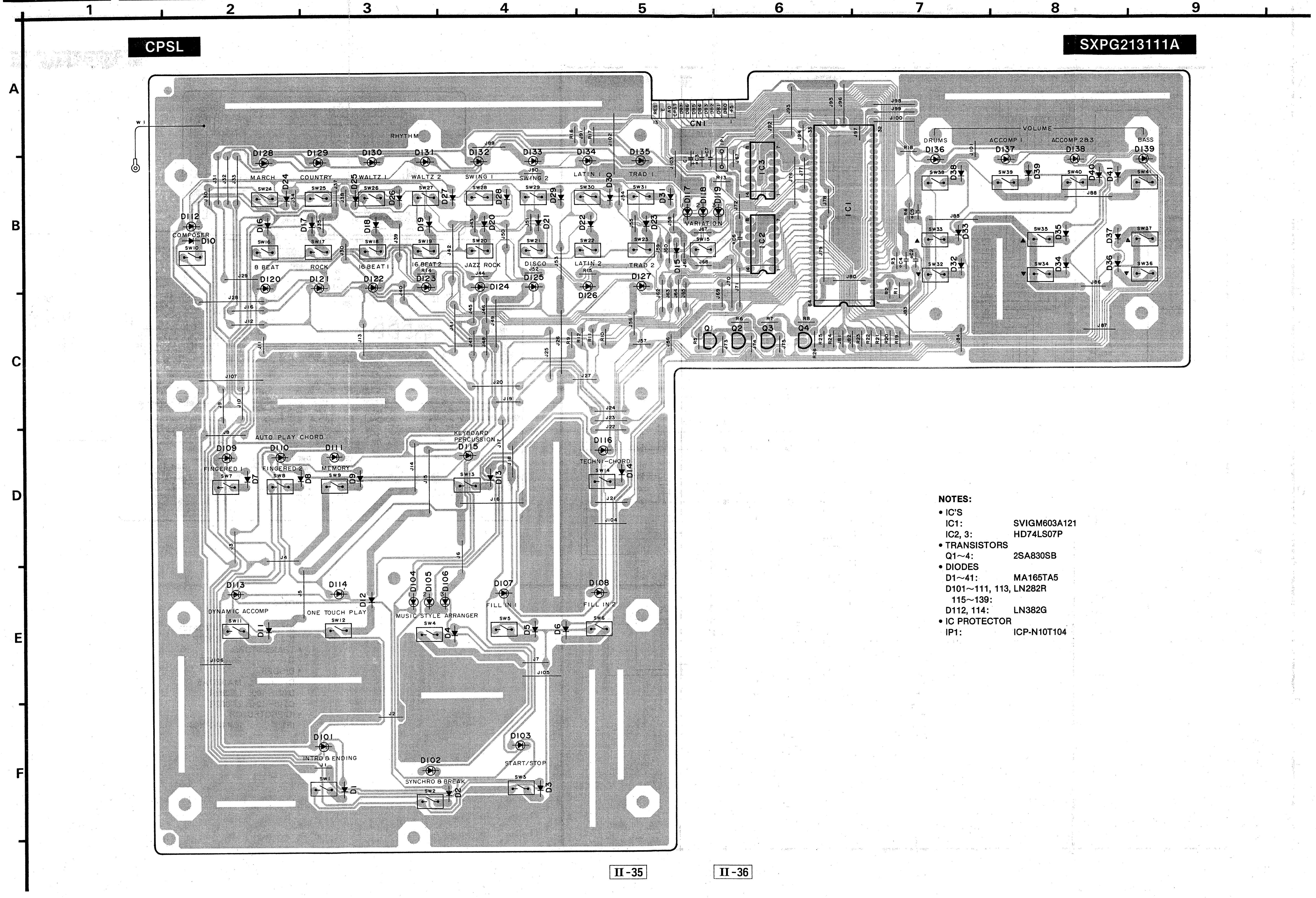
NOTES:

- TRANSISTORS
  - Q1: 2SC3940ARS
- TRANSFORMER
  - T1: QTDG001A

CPSL LOWER CONTROL PANEL LEFT CIRCUIT DIAGRAM


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
CPSL
RHYTHM CONTROLS
RHYTHM SELECT
VOLUME
INTRO & ENDING
SYNCHRO & BREAK
START/STOP
M. STYLE 1
M. STYLE 2
M. STYLE 3
FILL IN 1
FILL IN 2
FINGERED 1
FINGERED 2
MEMORY
COMPOSER
D. ACCOMP
ONE TOUCH PLAY
K. PERCUSSION
TECHNI-CHORD
VARIATION 1
VARIATION 2
VARIATION 3
8 BEAT
ROCK
16 BEAT 1
16 BEAT 2
JAZZ ROCK
DISCO
LATIN 2
TRAD 2
MARCH
COUNTRY
WALTZ 1
WALTZ 2
SWING 1
SWING 2
LATIN 1
TRAD 1
DRUMS ▼
DRUMS ▲
ACCOMP ▼
ACCOMP ▲
BASS ▼
BASS ▲
DRUMS
ACCOMP 1
ACCOMP 2&3
BASS
Gate Array
IC1
IC2
IC3
CN1
CN2
CPL1
Q1
Q2
Q3
Q4
R1 180K
R2 220
R3 2.2K
R4 1K
R5 10K
R6 10K
R7 10K
R8 10K
R9 68
R10 68
R11 68
R12 68
R13 68
R14 68
R15 68
R16 68
R17 68
R18 68
R19 10K
R20 10K
R21 10K
R22 10K
R23 10K
R24 10K
R25 10K
R26 10K
C1 6V47
C2 100P
C3 0.1
C4 0.0068
C5 100P
C6 0.1
C7 0.1
IP1
+5V
VDD
VSS
CKO
CKI
CSO
CS1
RST
DI0
DI1
DI2
DI3
DI4
DI5
DI6
DI7
DB0
DB1
DB2
DB3
DB4
DB5
DB6
DB7
STR
A0
CPST
E
RES
RD0
RD1
RD2
RD3
RD4
RD5
RD6
RD7
RD8
RD9
RD10
TS0
TS1
TS2
TS3
DO0
DO1
DO2
DO3
DO4
DO5
DO6
DO7
DO8
DO9
DO10
DO11
DO12
DO13
DO14
DO15
DO16
DO17
DO18
DO19
DO20
DO21

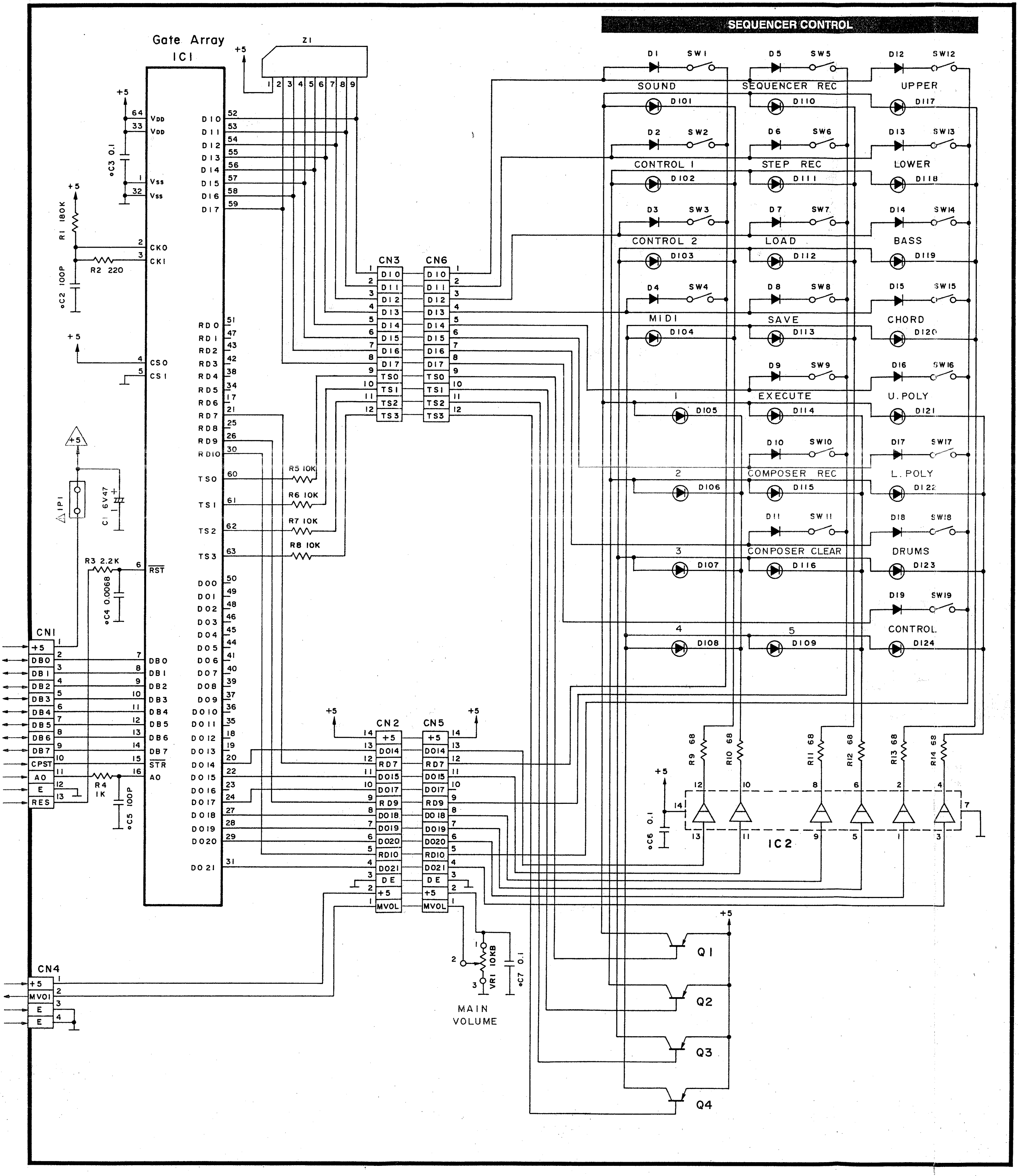
LOWER CONTROL PANEL LEFT CIRCUIT BOARD


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
CPSL
SXPG213111A
W1
RHYTHM
CN1
VOLUME
DRUMS
ACCOMP 1
ACCOMP 2&3
BASS
MARCH
COUNTRY
WALTZ 1
WALTZ 2
SWING 1
SWING 2
LATIN 1
TRAD 1
VARIATION
COMPOSER
8 BEAT
ROCK
16 BEAT 1
16 BEAT 2
JAZZ ROCK
DISCO
LATIN 2
TRAD 2
IC1
IC2
IC3
Q1
Q2
Q3
Q4
AUTO PLAY CHORD
FINGERED 1
FINGERED 2
MEMORY
KEYBOARD PERCUSSION
TECHNI-CHORD
DYNAMIC ACCOMP
ONE TOUCH PLAY
MUSIC STYLE ARRANGER
FILL IN 1
FILL IN 2
INTRO & ENDING
SYNCHRO & BREAK
START/STOP

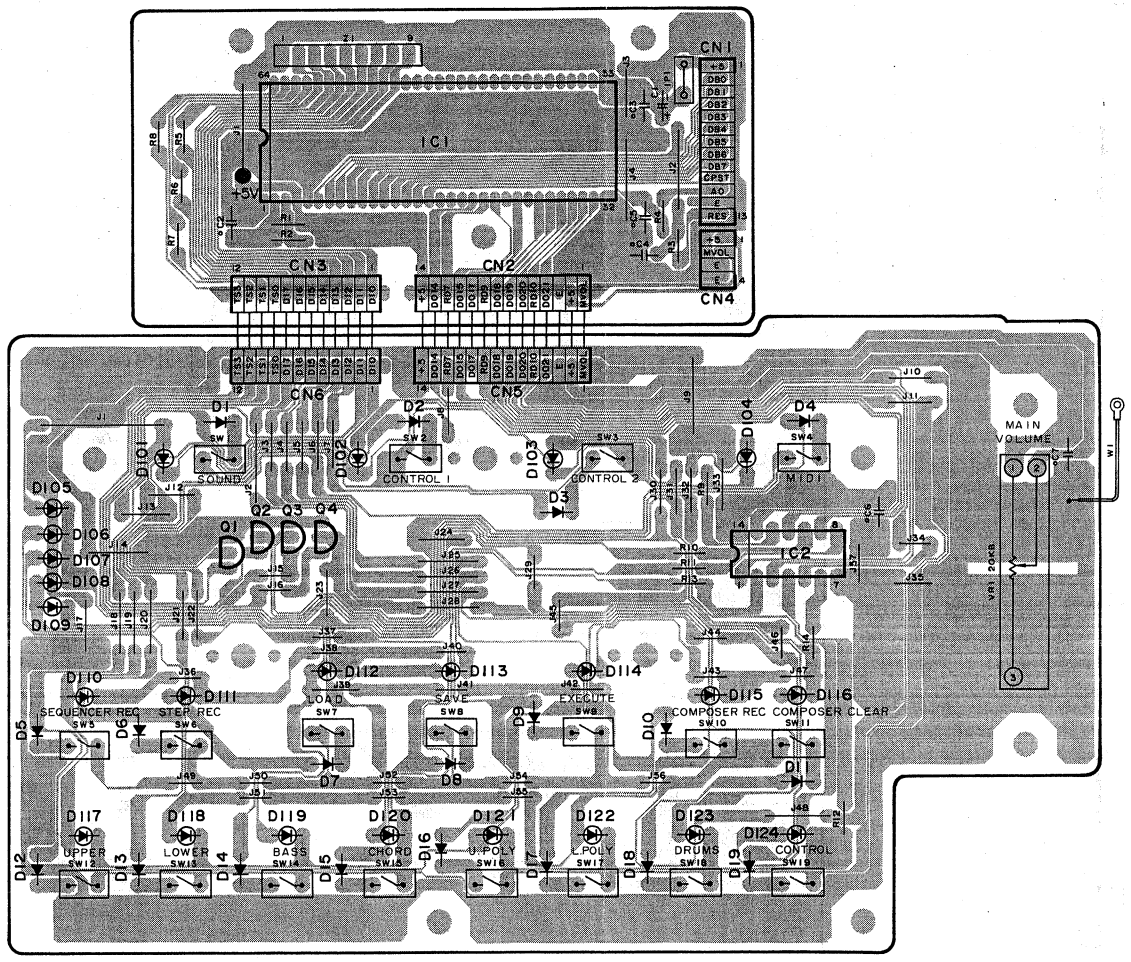
NOTES:

- IC'S
  - IC1: SVIGM603A121
  - IC2, 3: HD74LS07P
- TRANSISTORS
  - Q1~4: 2SA830SB
- DIODES
  - D1~41: MA165TA5
  - D101~111, 113, 115~139: LN282R
  - D112, 114: LN382G
- IC PROTECTOR
  - IP1: ICP-N10T104

CPSQ SEQUENCER CONTROL CIRCUIT DIAGRAM AND CIRCUIT BOARD


SEQUENCER CONTROL
Gate Array
IC1
Z1
CN1
CN2
CN3
CN4
CN5
CN6
MAIN CN3
MAIN CN7
SOUND
SEQUENCER REC
UPPER
CONTROL 1
STEP REC
LOWER
CONTROL 2
LOAD
BASS
MIDI
SAVE
CHORD
EXECUTE
U. POLY
COMPOSER REC
L. POLY
COMPOSER CLEAR
DRUMS
CONTROL
IC2
Q1
Q2
Q3
Q4
MAIN VOLUME
VR1 10KB
IP1
C1 6V47
R1 180K
R2 220
R3 2.2K
R4 1K
R5 10K
R6 10K
R7 10K
R8 10K
R9 68
R10 68
R11 68
R12 68
R13 68
R14 68
C2 100P
C3 0.1
C4 0.0068
C5 100P
C6 0.1
C7 0.1

SXPG213111B


CN1
CN2
CN3
CN4
CN5
CN6
IC1
IC2
Z1
Q1 Q2 Q3 Q4
MAIN VOLUME
VR1
SOUND
CONTROL 1
CONTROL 2
MIDI
SEQUENCER REC
STEP REC
LOAD
SAVE
EXECUTE
COMPOSER REC
COMPOSER CLEAR
UPPER
LOWER
BASS
CHORD
U.POLY
L.POLY
DRUMS
CONTROL

NOTES:

- IC'S

IC1:	SVIGM603A121
IC2:	HD74LS07P

- TRANSISTORS

Q1~4:	2SA830SB

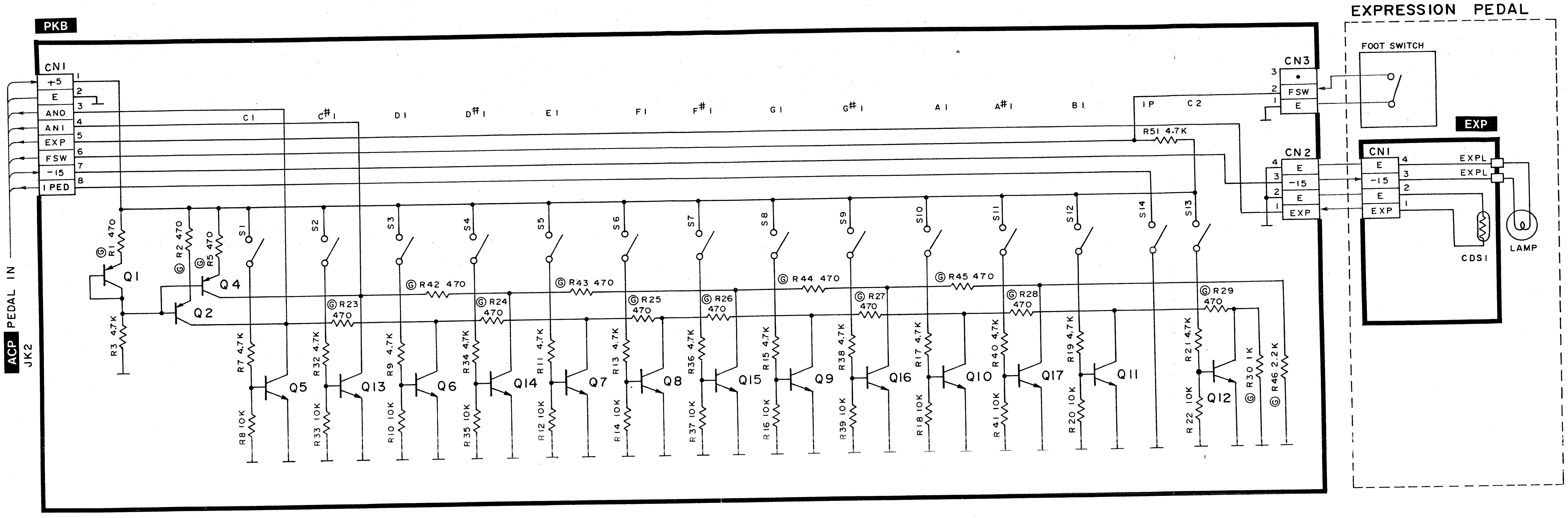
- DIODES

D1~19:	MA165TA5
D101~109:	LN282R
D110~124:	LN382G

- IC PROTECTOR

IP1:	ICP-N10T104

PEDAL KEYBOARD AND EXPRESSION CIRCUIT DIAGRAM

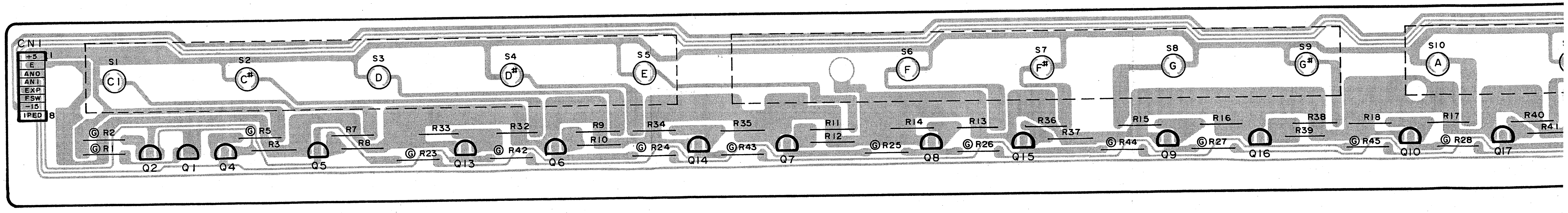

PKB
CN1
+5
E
ANO
AN1
EXP
FSW
-15
IPED
ACP JK2 PEDAL IN
C1 C#1 D1 D#1 E1 F1 F#1 G1 G#1 A1 A#1 B1 1P C2
S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S14 S13
Q1 Q2 Q4 Q5 Q13 Q6 Q14 Q7 Q8 Q15 Q9 Q16 Q10 Q17 Q11 Q12
R1 470
R2 470
R5 470
R3 4.7K
R7 4.7K
R8 10K
R23 470
R32 4.7K
R33 10K
R42 470
R9 4.7K
R10 10K
R24 470
R34 4.7K
R35 10K
R43 470
R11 4.7K
R12 10K
R25 470
R13 4.7K
R14 10K
R26 470
R36 4.7K
R37 10K
R44 470
R15 4.7K
R16 10K
R27 470
R38 4.7K
R39 10K
R45 470
R17 4.7K
R18 10K
R28 470
R40 4.7K
R41 10K
R19 4.7K
R20 10K
R29 470
R21 4.7K
R22 10K
R30 1K
R46 2.2K
R51 4.7K
CN3
FSW
E
CN2
E
-15
E
EXP
EXPRESSION PEDAL
FOOT SWITCH
EXP
CN1
E
-15
E
EXP
EXPL
EXPL
CDS1
LAMP

PKB

NOTES:

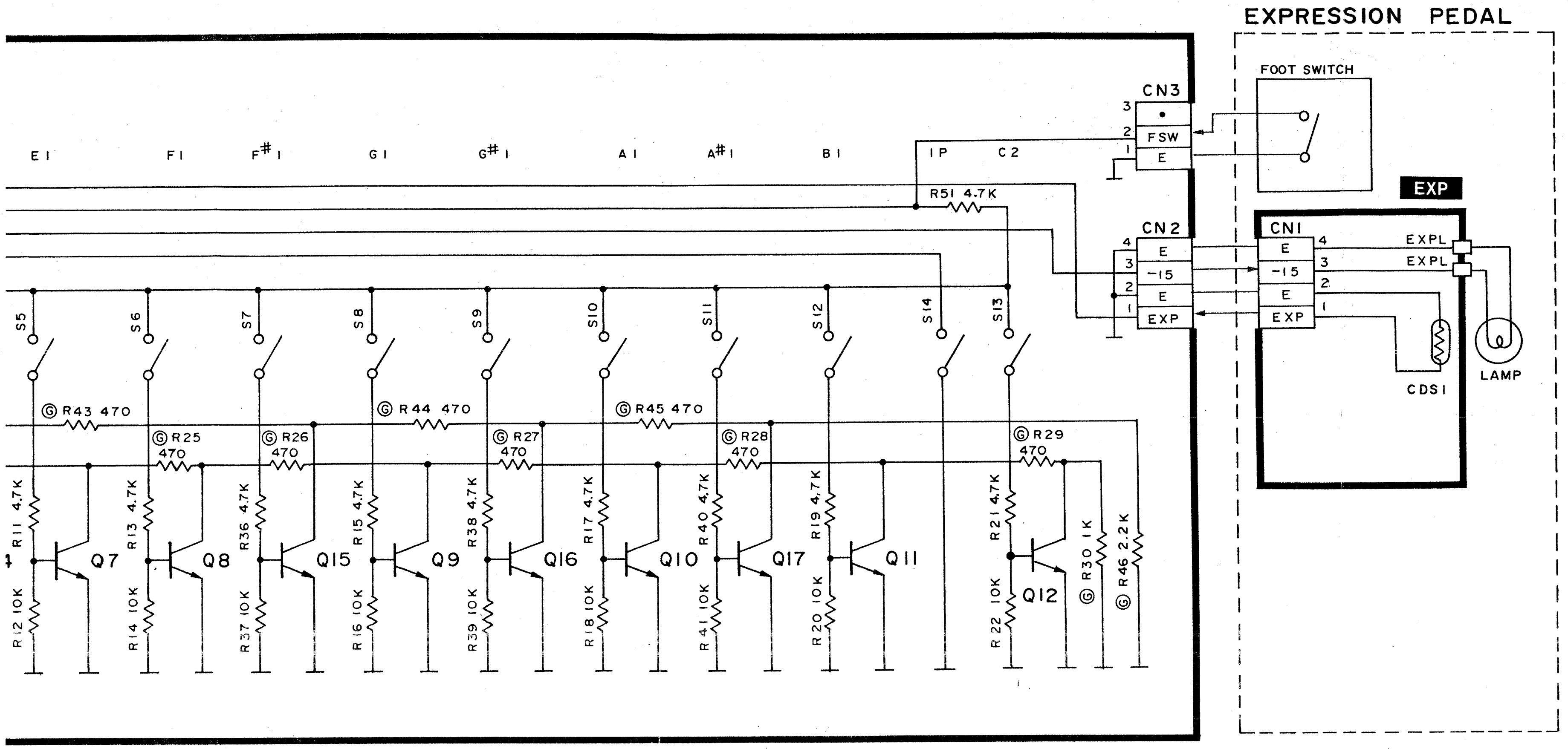
- TRANSISTORS
  Q1, 2, 4: 2SA1015-GR
  Q5~17: 2SC2320LFG

PKB PEDAL KEYBOARD CIRCUIT BOARD

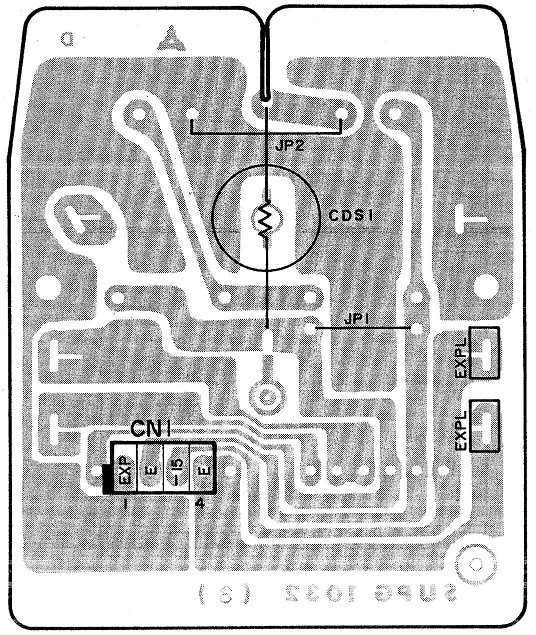

CN1
+5
E
ANO
AN1
EXP
FSW
-15
IPED
S1 C1
S2 C#
S3 D
S4 D#
S5 E
S6 F
S7 F#
S8 G
S9 G#
S10 A
R2 R1 R5 R3 R7 R8 R33 R32 R9 R10 R34 R35 R11 R12 R14 R13 R36 R37 R15 R16 R38 R39 R18 R17 R40
R23 R42 R24 R43 R25 R26 R44 R27 R45 R28
Q2 Q1 Q4 Q5 Q13 Q6 Q14 Q7 Q8 Q15 Q9 Q16 Q10 Q17

ESSION CIRCUIT DIAGRAM

EXP EXPRESSION CIRCUIT BOARD


EXPRESSION PEDAL
FOOT SWITCH
CN3
FSW
E
CN2
E
-15
E
EXP
EXP
CN1
E
-15
E
EXP
EXPL
EXPL
CDS1
LAMP
E1
F1
F#1
G1
G#1
A1
A#1
B1
IP
C2
R51 4.7K
S5
S6
S7
S8
S9
S10
S11
S12
S14
S13
Ⓖ R43 470
Ⓖ R44 470
Ⓖ R45 470
Ⓖ R25 470
Ⓖ R26 470
Ⓖ R27 470
Ⓖ R28 470
Ⓖ R29 470
R11 4.7K
R13 4.7K
R36 4.7K
R15 4.7K
R38 4.7K
R17 4.7K
R40 4.7K
R19 4.7K
R21 4.7K
R12 10K
R14 10K
R37 10K
R16 10K
R39 10K
R18 10K
R41 10K
R20 10K
R22 10K
Ⓖ R30 1K
Ⓖ R46 2.2K
Q7
Q8
Q15
Q9
Q16
Q10
Q17
Q11
Q12

SXPG103211

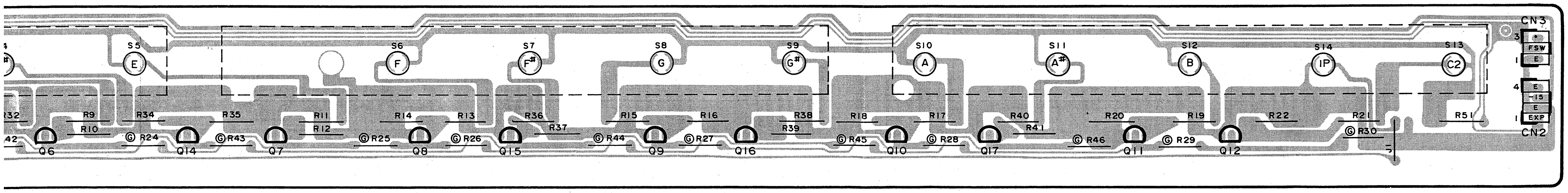

JP2
CDS1
JP1
EXPL
EXPL
CN1
EXP
E
-15
E
1
4

PKB

NOTES:

- TRANSISTORS
  Q1, 2, 4: 2SA1015-GR
  Q5~17: 2SC2320LFG

SXPG145121


S5
E
S6
F
S7
F#
S8
G
S9
G#
S10
A
S11
A#
S12
B
S14
IP
S13
C2
CN3
FSW
E
CN2
E
-15
E
EXP
R9
R10
R34
R35
R11
R12
R14
R13
R36
R37
R15
R16
R38
R39
R18
R17
R40
R41
R20
R19
R22
R21
R51
Ⓖ R24
Ⓖ R43
Ⓖ R25
Ⓖ R26
Ⓖ R44
Ⓖ R27
Ⓖ R45
Ⓖ R28
Ⓖ R46
Ⓖ R29
Ⓖ R30
Q6
Q14
Q7
Q8
Q15
Q9
Q16
Q10
Q17
Q11
Q12

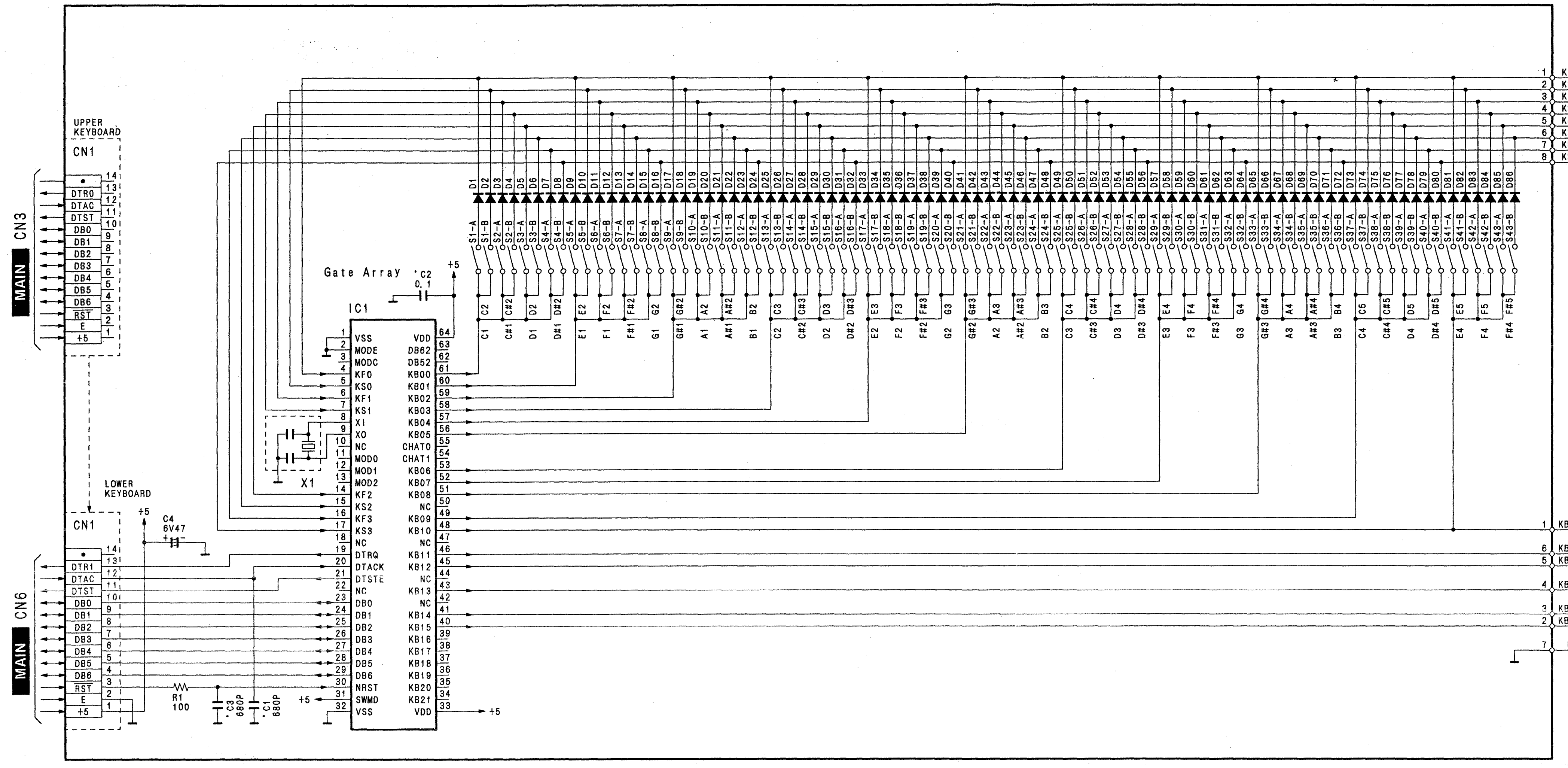
MKB1 **MKB2**

MANUAL KEYBOARD 1, 2 CIRCUIT DIAGRAM & CIRCUIT BOARD

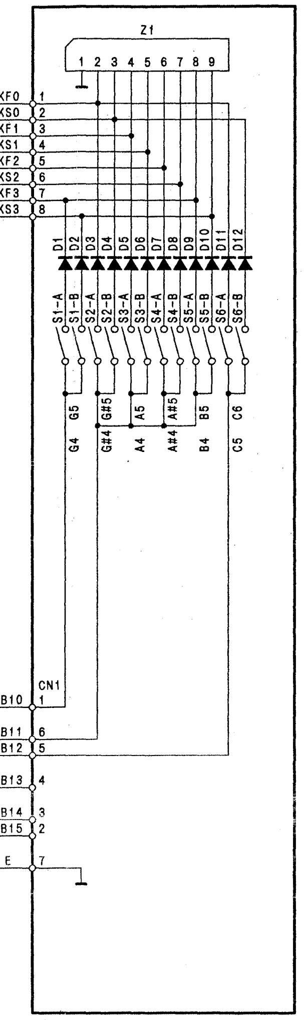
1 2 3 4 5 6 7 8 9 10

A B C D E F

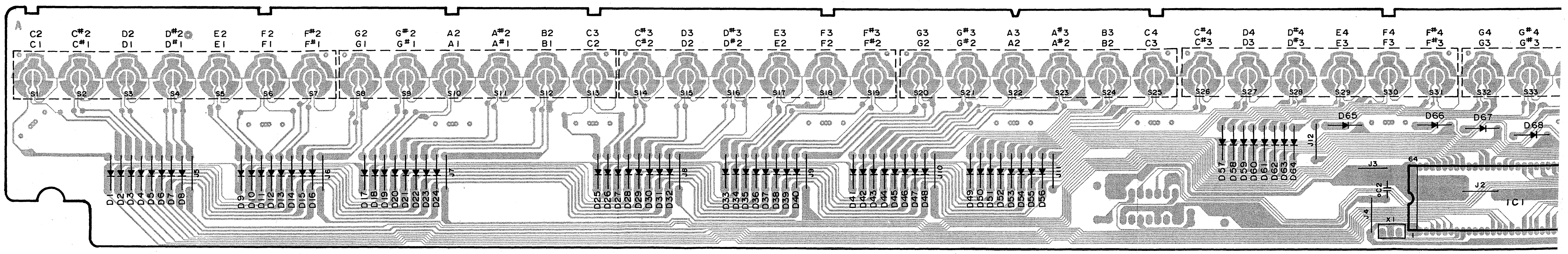
MKB1


UPPER KEYBOARD
CN1
CN3
MAIN
DTR0
DTAC
DTST
DB0
DB1
DB2
DB3
DB4
DB5
DB6
RST
E
+5
LOWER KEYBOARD
CN6
DTR1
C4 6V47
R1 100
C3 680P
C1 680P
Gate Array
C2 0.1
+5
IC1
X1
VSS
MODE
MODC
KF0
KS0
KF1
KS1
XI
XO
NC
MOD0
MOD1
MOD2
KF2
KS2
KF3
KS3
DTRQ
DTACK
DTSTE
NRST
SWMD
VDD
DB62
DB52
KB00
KB01
KB02
KB03
KB04
KB05
CHAT0
CHAT1
KB06
KB07
KB08
KB09
KB10
KB11
KB12
KB13
KB14
KB15
KB16
KB17
KB18
KB19
KB20
KB21
D1
D86
S1-A
S43-B
C1
C2
F#5
KF0
KS0
KF1
KS1
KF2
KS2
KF3
KS3
KB10
KB11
KB12
KB13
KB14
KB15
E

MKB2

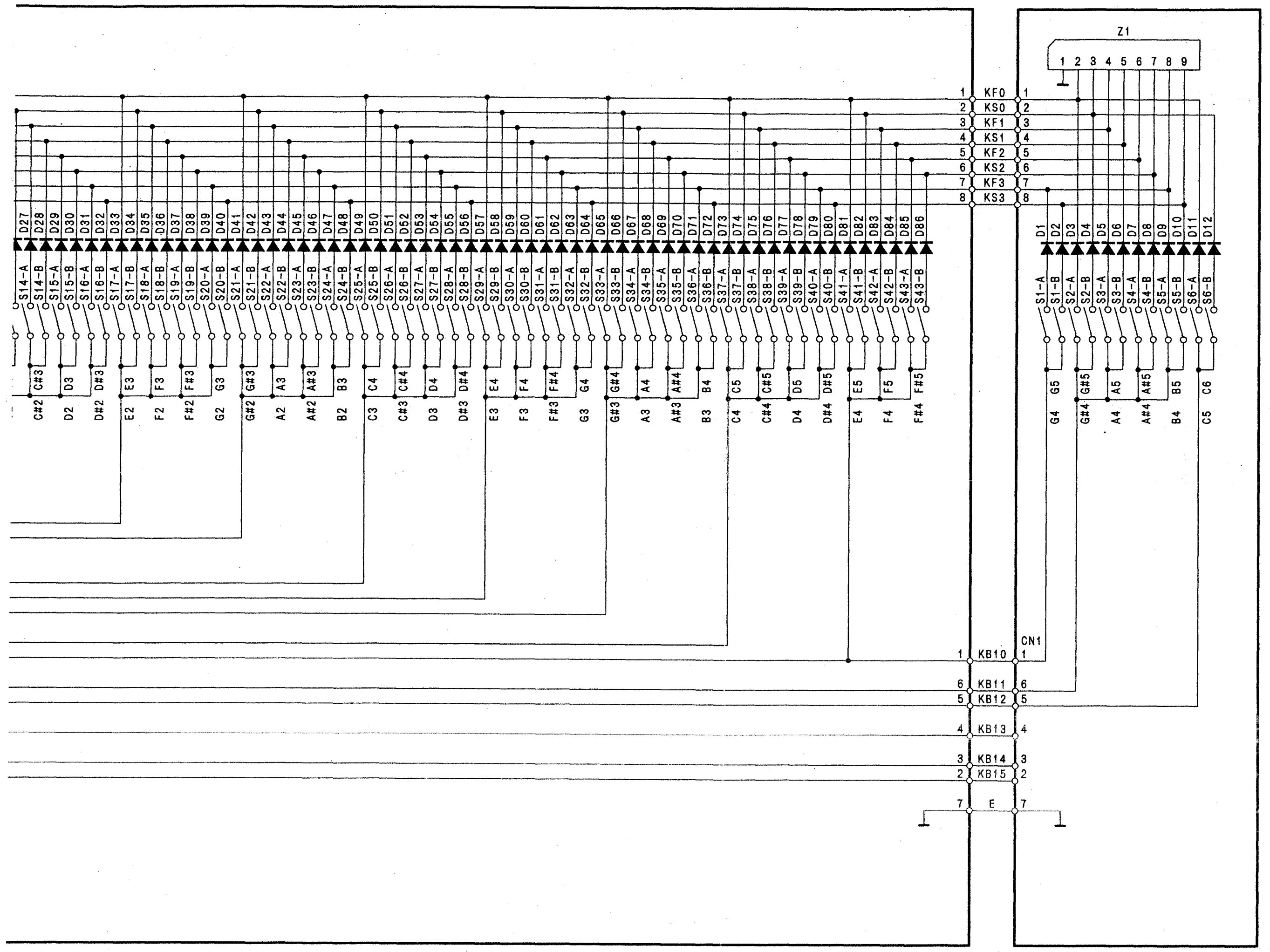

Z1
1 2 3 4 5 6 7 8 9
KF0
KS0
KF1
KS1
KF2
KS2
KF3
KS3
D1
D12
S1-A
S6-B
G4
G5
G#4
G#5
A4
A5
A#4
A#5
B4
B5
C5
C6
CN1
KB10
KB11
KB12
KB13
KB14
KB15
E

MKB1

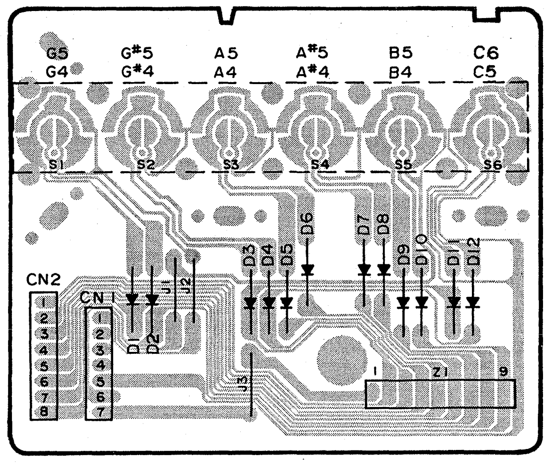

C2 C1
C#2 C#1
D2 D1
D#2 D#1
E2 E1
F2 F1
F#2 F#1
G2 G1
G#2 G#1
A2 A1
A#2 A#1
B2 B1
C3 C2
C#3 C#2
D3 D2
D#3 D#2
E3 E2
F3 F2
F#3 F#2
G3 G2
G#3 G#2
A3 A2
A#3 A#2
B3 B2
C4 C3
C#4 C#3
D4 D3
D#4 D#3
E4 E3
F4 F3
F#4 F#3
G4 G3
G#4 G#3
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S11
S12
S13
S14
S15
S16
S17
S18
S19
S20
S21
S22
S23
S24
S25
S26
S27
S28
S29
S30
S31
S32
S33
D1
D2
D3
D4
D5
D6
D7
D8
J5
D9
D10
D11
D12
D13
D14
D15
D16
J6
D17
D18
D19
D20
D21
D22
D23
D24
J7
D25
D26
D27
D28
D29
D30
D31
D32
J8
D33
D34
D35
D36
D37
D38
D39
D40
J9
D41
D42
D43
D44
D45
D46
D47
D48
J10
D49
D50
D51
D52
D53
D54
D55
D56
J11
D57
D58
D59
D60
D61
D62
D63
D64
J12
D65
D66
D67
D68
J3
J2
J4
C2
X1
IC1
64

RCUIT DIAGRAM & CIRCUIT BOARD

MKB2


Z1
KF0
KS0
KF1
KS1
KF2
KS2
KF3
KS3
KB10
KB11
KB12
KB13
KB14
KB15
E
CN1

MKB2 **SXPG213811**

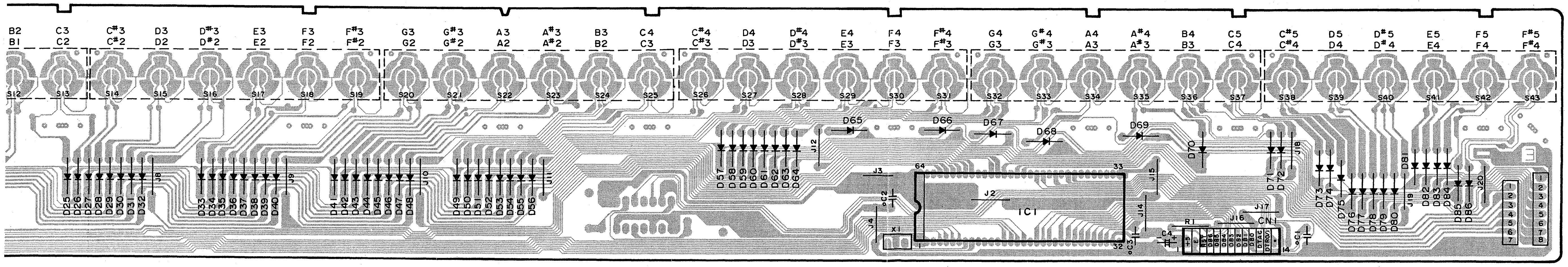

G5 G4
G#5 G#4
A5 A4
A#5 A#4
B5 B4
C6 C5
S1
S2
S3
S4
S5
S6
CN2
CN1
Z1

MKB2

NOTES:

- DIODES
  D1~12: MA162A

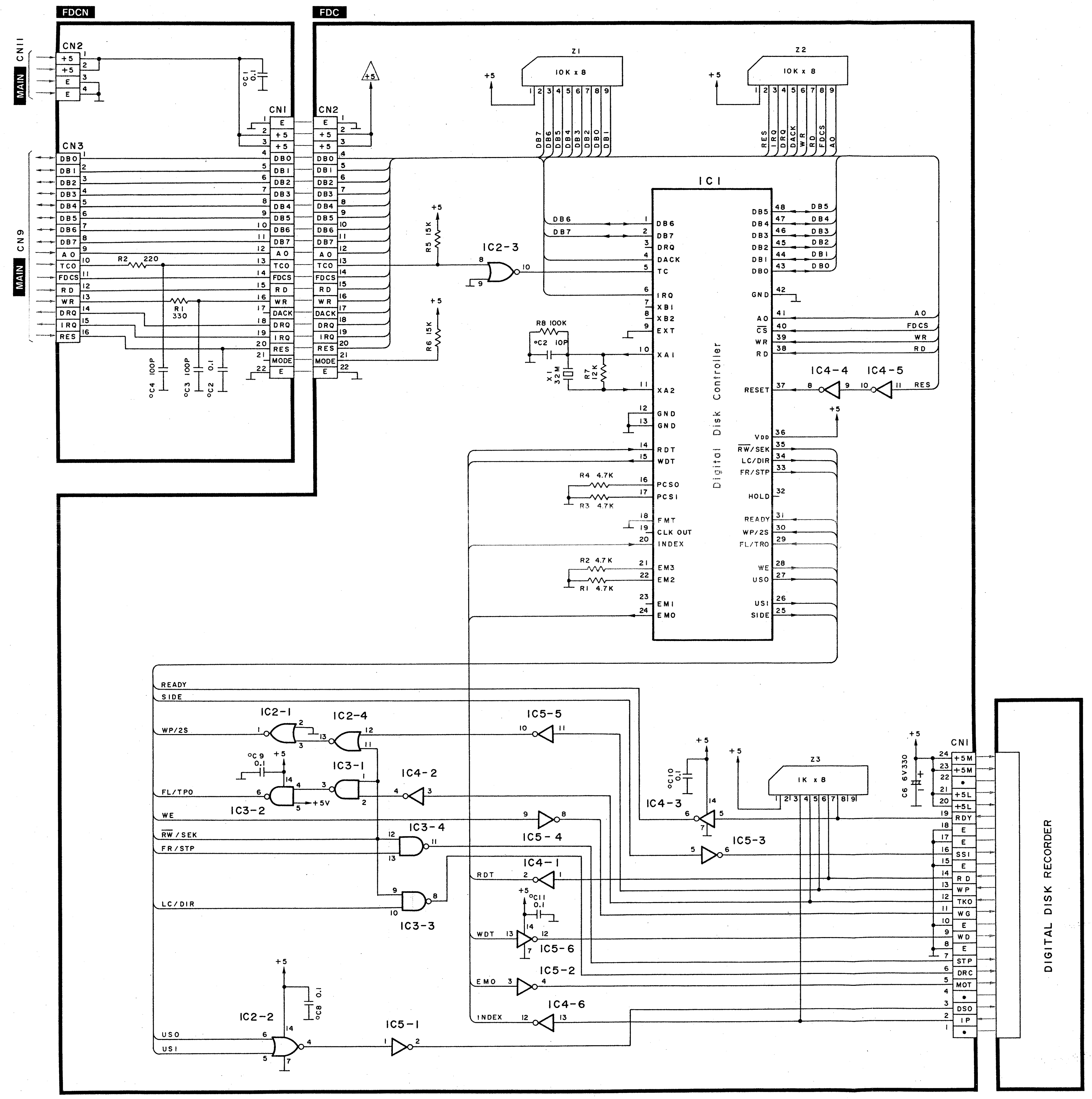
SXPG143551


IC1
X1
CN1
R1

NOTES:

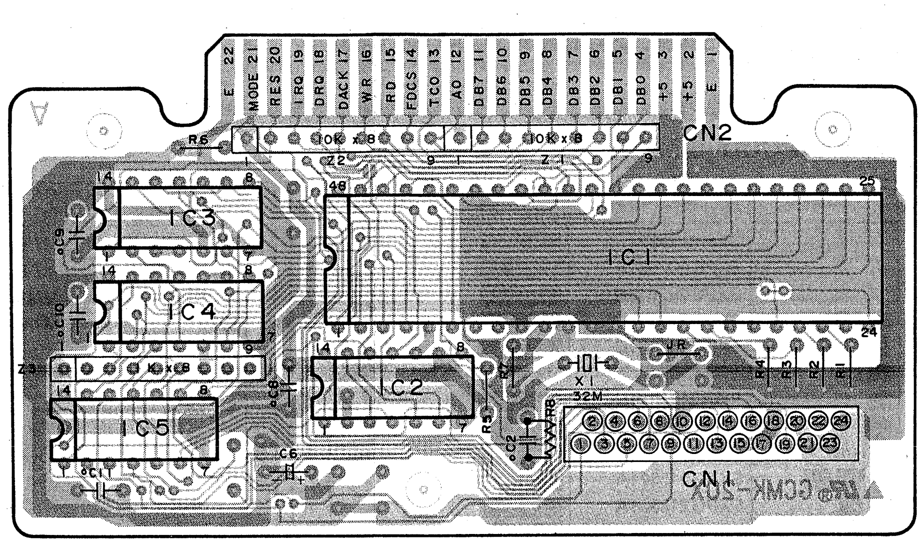
- IC'S
  IC1: D65022CW-285
- DIODES
  D1~86: MA162A

FDC FDCN FD CONTROL AND FD CONNECTOR CIRCUIT


FDCN
FDC
CN11
MAIN
CN2
+5
+5
E
E
CN3
CN9
MAIN
DB0
DB1
DB2
DB3
DB4
DB5
DB6
DB7
A0
TCO
FDCS
RD
WR
DRQ
IRQ
RES
R2 220
R1 330
C1 0.1
C4 100P
C3 100P
C2 0.1
CN1
MODE
Z1
10K x 8
Z2
10K x 8
+5
IC1
Digital Disk Controller
IC2-3
R5 15K
R6 15K
R8 100K
C2 10P
X1 3.2M
R7 12K
DB6
DB7
DRQ
DACK
TC
IRQ
XB1
XB2
EXT
XA1
XA2
GND
RDT
WDT
PCS0
PCS1
FMT
CLK OUT
INDEX
EM3
EM2
EM1
EM0
R4 4.7K
R3 4.7K
R2 4.7K
R1 4.7K
DB5
DB4
DB3
DB2
DB1
DB0
GND
A0
CS
WR
RD
RESET
VDD
RW/SEK
LC/DIR
FR/STP
HOLD
READY
WP/2S
FL/TRO
WE
US0
US1
SIDE
IC4-4
IC4-5
RES
READY
SIDE
WP/2S
IC2-1
IC2-4
IC5-5
C9 0.1
IC3-1
IC4-2
FL/TPO
IC3-2
+5V
WE
IC5-4
RW/SEK
FR/STP
IC3-4
IC3-3
LC/DIR
IC4-1
RDT
C11 0.1
WDT
IC5-6
EMO
IC5-2
IC4-6
INDEX
IC2-2
C8 0.1
US0
US1
IC5-1
C10 0.1
IC4-3
IC5-3
Z3
1K x 8
C6 6V330
CN1
+5M
+5M
+5L
+5L
RDY
E
SSI
RD
WP
TKO
WG
WD
STP
DRC
MOT
DSO
IP
DIGITAL DISK RECORDER

FDC

SXPG208311


E
MODE
RES
IRQ
DRQ
DACK
WR
RD
FDCS
TCO
A0
DB7
DB6
DB5
DB4
DB3
DB2
DB1
DB0
+5
+5
E
CN2
R6
10K x 8
Z2
10K x 8
Z1
IC3
IC1
IC4
IC2
IC5
C9
C10
C6
C1
C5
C2
C8
X1
3.2M
R4
R3
R2
R5
R7
R8
Z3
CN1
CCMK-20X

Circuit view on top of P.C.B.

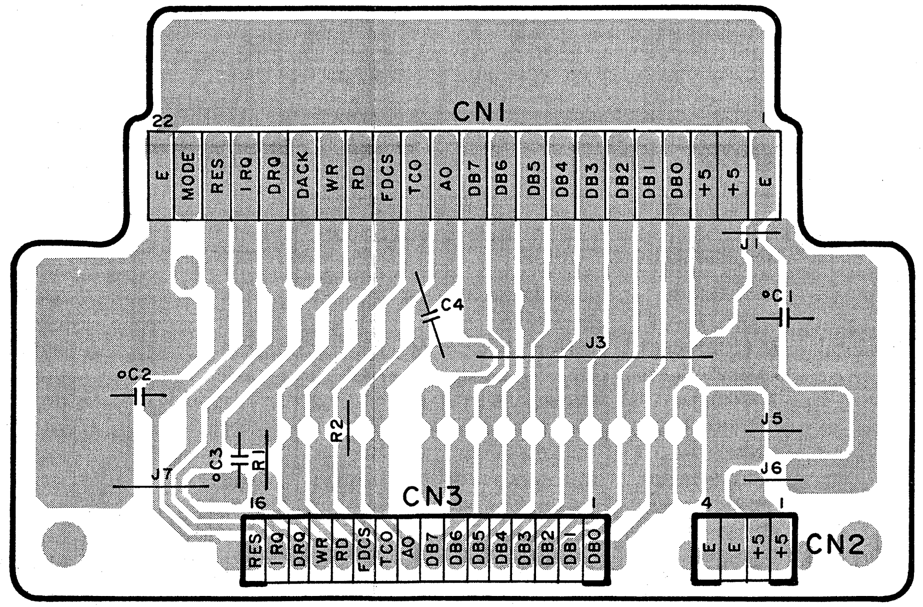
NOTES:

- IC'S

IC1:	SVIGD72067C
IC2:	SVIGM74H02
IC3:	SVIGM74H00
IC4:	SVIGM74H14
IC5:	SVIGM74H04

FDCN

SXPG213311B


CN1
22
E
MODE
RES
IRQ
DRQ
DACK
WR
RD
FDCS
TCO
A0
DB7
DB6
DB5
DB4
DB3
DB2
DB1
DB0
+5
+5
E
J1
C1
C4
J3
C2
J5
R2
C3
R1
J7
J6
CN3
16
RES
IRQ
DRQ
WR
RD
FDCS
TCO
A0
DB7
DB6
DB5
DB4
DB3
DB2
DB1
DB0
4
E
E
+5
+5
CN2

REPLACEMENT PARTS LIST......P.C.B. and Wiring Parts

Notes:

1. The marking (RTL) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retension period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention.
   After the end of this period, the assembly will no longer be available.
2. Important safety notice
   Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. The "S" mark is service standard parts and may differ from production parts.
4. ○ mark are new parts.
5. For part No. with area mark, check the area when placing an order.

■ PRINTED CIRCUIT BOARD

	RTL	Area	Part No.	Description	P/S
○	RTL		SXPG213021	MAIN	1
○	RTL		SXPG207561A	ME	1
	RTL		SXPG207511B	JK	1
○	RTL	M MC XM	SXPG213321C	ACP	1
○	RTL	EK X XS XT XD	SXPG213331C	ACP	1
○	RTL	XL	SXPG213341C	ACP	1
○	RTL	XR	SXPG213351C	ACP	1
○	RTL	Others	SXPG213311C	ACP	1
○	RTL	M MC XM	SXPG213321A	AS	1
○	RTL	EZ XL	SXPG213331A	AS	1
○	RTL	Others	SXPG213311A	AS	1
○	RTL		SXPG213311D	NW	1
○	RTL		SXPG213211	CPL(1)	1
○	RTL		SXPG213611	CPL(2)	1
○	RTL		SXPG213711A	CPR	1
○	RTL		SXPG213711B	ELC	1
○	RTL		SXPG213111A	CPSL	1
○	RTL		SXPG213111B	CPSQ	1
○	RTL		SXPG145121	PKB	1
	RTL		SXPG103211	EXP	1
○	RTL		SXPG143551	MKB1	2
○	RTL		SXPG213811	MKB2	1
	RTL		SXPG208311	FDC	1
○	RTL		SXPG213311B	FDCN	1
○	RTL		QSLG007AA	LCD	1

MAIN MAIN CIRCUIT

Ref. No.		Part No.	Description	P/S
INTEGRATED CIRCUITS				
	IC1	D70325GJ-10	16 bit Microcomputer	1
	IC2	D65012GF-A79	Gate Array	1
	IC5, 6	ATT7C256BF85	256K bit Static RAM	2
	IC7, 23	HM65256BLF10	256K bit Pseudo Static RAM	2
	IC8, 15	T74H4051AF	8-channel Multiplexer	2
	IC9	MN73012PGC	Tone Generator LSI 1	1
	IC10	MN73013PGD	Tone Generator LSI 2	1
○	IC11	QSIGU3C16311	16M bit Wave ROM	1
	IC12	QSIGU3C08801	8M bit Wave ROM	1
	IC13	PCM55HP	D-A Converter	1
	IC14, 16, 24	M5238FP	Operational Amplifier	3
	IC17	M74HC32FP	Quad 2-input OR Gates	1
	IC18, 19	M74HC00FP	Quad 2-input NAND Gates	2
	IC20	M74HC244FP	3-State Buffers	1
	IC21	M74HC245FP	Bus Transceiver	1
	IC22	MN199001PSA3	Digital Signal Processor	1
	IC25	M74HC04FP	Hex Inverters	1
TRANSISTORS				
	Q1	2SJ105GR	FET	1
S	Q2	2SC1815GR	Transistor	1
S	Q3	2SA1015-GR	2SA933STRS (SUB. Part)	1
DIODES				
	D1, 2, 4~8, 10, 11, 14	MA165TA5	Diode	10
	D3, 9, 12, 13	MA4056	Zener, 5.6V	4
OSCILLATORS				
	X1	QSXG1A1800A	18MHz Quartz Oscillator	1
	X2	QSXG1B4000B	40MHz, Quartz Oscillator	1
COMPONENT COMBINATIONS				
	Z1	EXAMR14A1002	1kΩ/2kΩ, Ladder Network	1
	Z2~4, 13~17, 24	EXBS8V472J	4.7kΩ × 4	9
	Z5~12, 18~23	EXBS8V101J	100Ω × 4	14
COILS				
	L1, 18, 19, 21, 22~24, 26, 30~32, 34~36	QLQGT1B800MA	Coil	14
SEMI-FIXED RESISTOR				
	VR1	EVSG0E1B103A	10kΩ B, Offset Adj.	1
RESISTORS				
	R1~3	ERDS2TJ103	10kΩ	3
	R4~6	ERDS2TJ102	1kΩ	3
	R7	ERDS2TJ103	10kΩ	1
	R8	ERDS2TJ183	18kΩ	1
	R9	ERDS2TJ332	3.3kΩ	1
	R10	ERDS2TJ472	4.7kΩ	1
	R11	ERDS2TJ473	47kΩ	1
	R12~14	ERDS2TJ472	4.7kΩ	3
	R15	ERDS2TJ103	10kΩ	1
	R16	ERDS2TJ681	680Ω	1
	R17, 18	ERDS2TJ472	4.7kΩ	2
	R19	ERDS2TJ155	1.5MΩ	1
	R20	ERDS2TJ101	100Ω	1
	R21	ERDS2TJ225	2.2MΩ	1
	R22	ERDS2TJ102	1kΩ	1
	R23	ERDS2TJ334	330kΩ	1
	R24, 25	ERDS2TJ102	1kΩ	2
	R26	ERDS2TJ101	100Ω	1
	R27	ERDS2TJ124	120kΩ	1
	R28	ERDS2TJ104	100kΩ	1
	R29	ERDS2TJ103	10kΩ	1
	R30	ERDS2TJ473	47kΩ	1
	R31, 32	ERDS2TJ472	4.7kΩ	2
	R35	ERDS2TJ184	180kΩ	1
	R36~39	ERDS2TJ102	1kΩ	4
	R40~44	ERDS2TJ101	100Ω	5
	R45	ERDS2TJ473	47kΩ	1
	R46	ERDS2TJ223	22kΩ	1
	R47	ERDS2TJ103	10kΩ	1
	R48	ERDS2TJ473	47kΩ	1
	R49	ERDS2TJ223	22kΩ	1
	R50	ERDS2TJ103	10kΩ	1
	R51	ERDS2TJ682	6.8kΩ	1
	R52	ERDS2TJ123	12kΩ	1
	R53	ERDS2TJ153	15kΩ	1
	R54	ERDS2TJ154	150kΩ	1
	R55	ERDS2TJ332	3.3kΩ	1
	R57, 58	ERDS2TJ472	4.7kΩ	2
	R59	ERDS2TJ105	1MΩ	1
	R60~63	ERDS2TJ681	680Ω	4
	R65, 66 ⚠	ERD2FCVJ4R7	4.7Ω, 1/4W, Fuse Type	2
	R67, 68 ⚠	ERD2FCVG100	10Ω, 1/4W, Fuse Type	2
	R69 ⚠	ERD2FCVJ4R7	4.7Ω, 1/4W, Fuse Type	1
	R70	ERDS2TJ102	1kΩ	1
	R71, 72	ERDS2TJ101	100Ω	2
	R74	ERDS2TJ472	4.7kΩ	1
	R75	ERDS2TJ103	10kΩ	1
	R76, 77	ERDS2TJ222	2.2kΩ	2
	R78	ERDS2TJ103	10kΩ	1
	R79~82	ERDS2TJ472	4.7kΩ	4
	R83, 84	ERDS2TJ104	100kΩ	2
	R86, 87	ERDS2TJ472	4.7kΩ	2
	R89, 90	ERDS2TJ472	4.7kΩ	2
	R91, 92	ERDS2TJ104	100kΩ	2
	R94	ERDS2TJ101	100Ω	1
	R95, 96	ERDS2TJ221	220Ω	2
	R97	ERDS2TJ103	10kΩ	1
	R98, 99	ERDS2TJ472	4.7kΩ	2
	R100	ERDS2TJ101	100Ω	1
	R101	ERDS2TJ472	4.7kΩ	1
	R110	ERDS2TJ103	10kΩ	1
	R120~148	ERDS2TJ221	220Ω	29
	R152, 153	ERDS2TJ221	220Ω	2
	R154	ERDS2TJ102	1kΩ	1
	R155~157	ERDS2TJ221	220Ω	3
CAPACITORS				
	C1, 2	ECCF1H030C	3pF	2
	C3	ECEA0JKA101	100μF, 6.3V	1
	C4	ECUV1H104ZFX	0.1μF	1
	C5	ECEA1HKA010	1μF, 50V	1
	C6	ECRF1H104ZF	0.1μF	1
	C7, 8	ECUV1H104ZFX	0.1μF	2
	C9~13	ECUV1H104ZFX	0.1μF	5
	C14	ECEA0JKA470	47μF, 6.3V	1
	C15	EECF5R5U105	1F, 5.5V, Memory Back-up	1
	C16	ECEA1HKN010	1μF, 50V	1
	C17~19	ECUV1H104ZFX	0.1μF	3
	C21	ECCF1H221J	220pF	1
	C22~30	ECUV1H104ZFX	0.1μF	9
	C31, 32	ECEA0JKA470	47μF, 6.3V	2
	C33	ECCF1H471J	470pF	1
	C34	ECCF1H220J	22pF	1
	C36, 37	ECUV1H104ZFX	0.1μF	2
	C38, 39	ECEA1CKA100	10μF, 16V	2
	C40	ECEA1CKN100	10μF, 16V	1
	C41, 42	ECEA1CKA100	10μF, 16V	2
	C43, 44	ECRF1H104ZF	0.1μF	2
	C46	ECEA0JKA101	100μF, 6.3V	1
	C47~50	ECEA1CKA101	100μF, 16V	4
	C51	ECCF1H101J	100pF	1
	C52	ECEA0JKA470	47μF, 6.3V	1
	C53, 54	ECUV1H104ZFX	0.1μF	2
	C55	ECEA0JKA470	47μF, 6.3V	1
	C57	ECRF1H104ZF	0.1μF	1
	C58	ECEA0JKA470	47μF, 6.3V	1
	C59	ECUV1H104ZFX	0.1μF	1
	C62	ECEA0JKA470	47μF, 6.3V	1
	C63	ECQB1H153JF	0.015μF	1
	C64, 65	ECQB1H223JF	0.022μF	2
	C66	ECCF1H101J	100pF	1
	C67	ECUV1H104ZFX	0.1μF	1
	C69, 70	ECQB1H223JF	0.022μF	2
	C71	ECCF1H101J	100pF	1
	C72	ECUV1H104ZFX	0.1μF	1
	C74, 75	ECCF1H101J	100pF	2
	C76	ECUV1H104ZFX	0.1μF	1
	C77	ECEA0JKA101	100μF, 6.3V	1
	C78	ECEA1CKA470	47μF, 16V	1
	C79	ECEA0JKA101	100μF, 6.3V	1
	C81	ECQG1H102KZ	0.001μF	1
	C82	ECCF1H101J	100pF	1
	C92, 94	ECRF1H104ZF	0.1μF	2
	C97	ECUV1H104ZFX	0.1μF	1
	C98	ECRF1H104ZF	0.1μF	1
	C99, 101	ECUV1H104ZFX	0.1μF	2
	C102	ECRF1H104ZF	0.1μF	1

ME MIXING & EFFECT CIRCUIT

Ref. No.		Part No.	Description	P/S
INTEGRATED CIRCUITS				
	IC1	SVIGT74H4051	8-channel Multiplexer	1
S	IC2, 3, 5~7, 10~15, 22~24, 26, 27, 29	SVIGM5218L	Operational Amplifier	17
	IC4, 8	SVIGLM1894N	Dynamic Noise Reduction	2
	IC9	SVIGM5241L	Dual VCA	1
	IC16~18	MN3009	BBD (256 stages)	3
	IC19~21	SVIGMSM4011	Quad 2-input NAND Gates	3
	IC25	SVIGM5238L	Operational Amplifier	1
	IC28	SVIGM74H4066	Quad Bilateral Switches	1
TRANSISTORS				
	Q1, 2	2SJ105GR	FET	2
	Q3, 5	2SC3940ARS	Transistor	2
	Q4, 6	2SA1534ARS	Transistor	2
S	Q7	2SA1015-GR	2SA933STRS (SUB. Part)	1
S	Q8~10	2SC1815GR	Transistor	3

Ref. No.	Part No.	Description	P/S
DIODES			
D1	EK04	Diode	1
D2	MA4051MTA	Zener, 5.1V	1
D3～12, 302, 303	MA165TA5	Diode	12
COILS			
L101, 102	QLQGT1B800MA	Coil	2
SEMI-FIXED RESISTOR			
VR1	EVND4AA00B24	20kΩ B, BBD Bias Adj.	1
WIRE			
W1	QEXG01003RA	Wire	1
RESISTORS			
R1～9	ERDS2TJ101	100Ω	9
R10	ERDS2TJ682	6.8kΩ	1
R11～13	ERDS2TJ473	47kΩ	3
R14	ERDS2TJ225	2.2MΩ	1
R16	ERDS2TJ682	6.8kΩ	1
R17～19	ERDS2TJ473	47kΩ	3
R20	ERDS2TJ225	2.2MΩ	1
R21, 22	ERDS2TJ472	4.7kΩ	2
R23	ERDS2TJ331	330Ω	1
R24	ERDS2TJ102	1kΩ	1
R25	ERDS2TJ221	220Ω	1
R26	ERDS2TJ331	330Ω	1
R27	ERDS2TJ474	470kΩ	1
R28	ERDS2TJ124	120kΩ	1
R29	ERDS2TJ154	150kΩ	1
R30	ERDS2TJ332	3.3kΩ	1
R38	ERDS2TJ684	680kΩ	1
R41, 42	ERDS2TJ154	150kΩ	2
R47	ERDS2TJ124	120kΩ	1
R48	ERDS2TJ684	680kΩ	1
R49	ERDS2TJ104	100kΩ	1
R50	ERDS2TJ124	120kΩ	1
R51	ERDS2TJ683	68kΩ	1
R52	ERDS2TJ823	82kΩ	1
R53	ERDS2TJ154	150kΩ	1
R54	ERDS2TJ274	270kΩ	1
R55	ERDS2TJ124	120kΩ	1
R56, 57	ERDS2TJ154	150kΩ	2
R58	ERDS2TJ124	120kΩ	1
R59	ERDS2TJ104	100kΩ	1
R60	ERDS2TJ274	270kΩ	1
R61	ERDS2TJ154	150kΩ	1
R62	ERDS2TJ823	82kΩ	1
R63	ERDS2TJ683	68kΩ	1
R64	ERDS2TJ124	120kΩ	1
R65, 66	ERDS2TJ154	150kΩ	2
R67	ERDS2TJ472	4.7kΩ	1
R68	ERDS2TJ222	2.2kΩ	1
R69	ERDS2TJ472	4.7kΩ	1
R70～72	ERDS2TJ333	33kΩ	3
R73	ERDS2TJ472	4.7kΩ	1
R74	ERDS2TJ222	2.2kΩ	1
R75	ERDS2TJ472	4.7kΩ	1
R76～78	ERDS2TJ333	33kΩ	3
R80, 81	ERDS2TJ331	330Ω	2
R83, 84	ERDS2TJ472	4.7kΩ	2
R85	ERDS2TJ331	330Ω	1
R86	ERDS2TJ681	680Ω	1
R87	ERDS2TJ682	6.8kΩ	1
R88	ERDS2TJ224	220kΩ	1
R89	ERDS2TJ682	6.8kΩ	1
R90	ERDS2TJ681	680Ω	1
R91	ERDS2TJ103	10kΩ	1
R93	ERDS2TJ103	10kΩ	1
R95	ERDS2TJ223	22kΩ	1
R96	ERDS2TJ154	150kΩ	1
R97	ERDS2TJ223	22kΩ	1
R98	ERDS2TJ154	150kΩ	1
R100, 101	ERDS2TJ222	2.2kΩ	2
R103	ERDS2TJ220	22Ω	1
R104	ERDS2TJ224	220kΩ	1
R105	ERDS2TJ684	680kΩ	1
R106	ERDS2TJ334	330kΩ	1
R107	ERDS2TJ224	220kΩ	1
R108	ERDS2TJ220	22Ω	1
R109	ERDS2TJ224	220kΩ	1
R110	ERDS2TJ334	330kΩ	1
R111	ERDS2TJ684	680kΩ	1
R113	ERDS2TJ154	150kΩ	1
R117	ERDS2TJ154	150kΩ	1
R120	ERDS2TJ683	68kΩ	1
R122	ERDS2TJ683	68kΩ	1
R124～131	ERDS2TJ334	330kΩ	8
R132	ERDS2TJ474	470kΩ	1
R143～145	ERDS2TJ473	47kΩ	3
R146	ERDS2TJ104	100kΩ	1
R147	ERDS2TJ103	10kΩ	1
R148	ERDS2TJ333	33kΩ	1
R149	ERDS2TJ103	10kΩ	1
R150	ERDS2TJ333	33kΩ	1
R151	ERDS2TJ103	10kΩ	1
R154, 155	ERDS2TJ683	68kΩ	2
R156, 157	ERDS2TJ154	150kΩ	2
R158	ERDS2TJ104	100kΩ	1
R159	ERDS2TJ224	220kΩ	1
R160, 161	ERDS2TJ154	150kΩ	2
R162	ERDS2TJ104	100kΩ	1
R163	ERDS2TJ224	220kΩ	1
R164～166	ERDS2TJ473	47kΩ	3
R167, 168	ERDS2TJ104	100kΩ	2
R169	ERDS2TJ102	1kΩ	1
R170	ERDS2TJ473	47kΩ	1
R171 ⚠	ERD2FCVG100	10Ω, 1/4W, Fuse Type	1
R172	ERDS2TJ473	47kΩ	1
R173 ⚠	ERD2FCVG100	10Ω, 1/4W, Fuse Type	1
R174	ERDS2TJ473	47kΩ	1
R175 ⚠	ERD2FCVG100	10Ω, 1/4W, Fuse Type	1
R176	ERDS2TJ473	47kΩ	1
R177～179	ERDS2TJ333	33kΩ	3
R180	ERDS2TJ154	150kΩ	1
R181	ERDS2TJ472	4.7kΩ	1
R182	ERDS2TJ103	10kΩ	1
R183	ERDS2TJ154	150kΩ	1
R184	ERDS2TJ472	4.7kΩ	1
R185	ERDS2TJ103	10kΩ	1
R186	ERDS2TJ154	150kΩ	1
R187	ERDS2TJ472	4.7kΩ	1
R188	ERDS2TJ103	10kΩ	1
R190	ERDS2TJ154	150kΩ	1
R191, 192	ERDS2TJ332	3.3kΩ	2
R193	ERDS2TJ154	150kΩ	1
R194	ERDS2TJ682	6.8kΩ	1
R195	ERDS2TJ223	22kΩ	1
R196	ERDS2TJ103	10kΩ	1
R197	ERDS2TJ223	22kΩ	1
R198	ERDS2TJ682	6.8kΩ	1

Ref. No.	Part No.	Description	P/S
R199	ERDS2TJ103	10kΩ	1
R200	ERDS2TJ154	150kΩ	1
R201, 202	ERDS2TJ332	3.3kΩ	2
R203, 204	ERDS2TJ154	150kΩ	2
R205, 206	ERDS2TJ332	3.3kΩ	2
R207	ERDS2TJ154	150kΩ	1
R208	ERDS2TJ223	22kΩ	1
R209	ERDS2TJ682	6.8kΩ	1
R210	ERDS2TJ103	10kΩ	1
R211	ERDS2TJ104	100kΩ	1
R212	ERDS2TJ223	22kΩ	1
R213, 214	ERDS2TJ473	47kΩ	2
R215	ERDS2TJ153	15kΩ	1
R216	ERDS2TJ333	33kΩ	1
R217~219	ERDS2TJ223	22kΩ	3
R220	ERDS2TJ474	470kΩ	1
R221	ERDS2TJ153	15kΩ	1
R222	ERDS2TJ224	220kΩ	1
R223	ERDS2TJ223	22kΩ	1
R224	ERDS2TJ104	100kΩ	1
R225	ERDS2TJ473	47kΩ	1
R227	ERDS2TJ393	39kΩ	1
R228	ERDS2TJ223	22kΩ	1
R229	ERDS2TJ393	39kΩ	1
R230	ERDS2TJ104	100kΩ	1
R231	ERDS2TJ473	47kΩ	1
R232	ERDS2TJ331	330Ω	1
R234, 235	ERDS2TJ473	47kΩ	2
R236	ERDS2TJ103	10kΩ	1
R237	ERDS2TJ474	470kΩ	1
R238	ERDS2TJ153	15kΩ	1
R239	ERDS2TJ224	220kΩ	1
R240	ERDS2TJ223	22kΩ	1
R241	ERDS2TJ104	100kΩ	1
R242	ERDS2TJ473	47kΩ	1
R243	ERDS2TJ103	10kΩ	1
R244	ERDS2TJ393	39kΩ	1
R245	ERDS2TJ223	22kΩ	1
R246	ERDS2TJ104	100kΩ	1
R247	ERDS2TJ393	39kΩ	1
R249	ERDS2TJ331	330Ω	1
R250, 251 ⚠	ERD2FCVG100	10Ω, 1/4W, Fuse Type	2
R252	ERDS2TJ472	4.7kΩ	1
R300	ERDS2TJ105	1MΩ	1
R301~303	ERDS2TJ103	10kΩ	3
R304	ERDS2TJ225	2.2MΩ	1
R305	ERDS2TJ332	3.3kΩ	1
R306, 307 ⚠	ERD2FCVJ4R7	4.7Ω, 1/4W, Fuse Type	2
R308	ERDS2TJ103	10kΩ	1
R310, 311	ERDS2TJ221	220Ω	2
R315, 316	ERDS2TJ102	1kΩ	2
CAPACITORS			
C2	ECEA0JKA470	47μF, 6.3V	1
C3	ECQG1H332KZ	0.0033μF	1
C4	ECRF1H104ZF	0.1μF	1
C5, 6	ECCF1H471J	470pF	2
C7	ECQG1H472KZ	0.0047μF	1
C8	ECCF1H101J	100pF	1
C9	ECRF1H104ZF	0.1μF	1
C10	ECQG1H472KZ	0.0047μF	1
C12, 13	ECCF1H471J	470pF	2
C14	ECCF1H101J	100pF	1
C15, 16	ECEA1CKA470	47μF, 16V	2
C17, 18	ECQB1H103JF	0.01μF	2
C19	ECKF1E473ZV	0.047μF	1
C20	ECEA1CKA100	10μF, 16V	1
C21, 22	ECQB1H103JF	0.01μF	2
C23	ECEA1HKA010	1μF, 50V	1
C24	ECRF1H104ZF	0.1μF	1
C25	ECQG1H102KZ	0.001μF	1
C26	ECQG1H332KZ	0.0033μF	1
C27	ECEA1HKA010	1μF, 50V	1
C28	ECQB1H103JF	0.01μF	1
C29	ECQB1H473JF	0.047μF	1
C32~39	ECQG1H222KZ	0.0022μF	8
C40	ECQG1H102KZ	0.001μF	1
C41	ECCF1H680J	68pF	1
C42	ECQG1H102KZ	0.001μF	1
C43	ECCF1H680J	68pF	1
C44	ECRF1H104ZF	0.1μF	1
C45, 46	ECQG1H102KZ	0.001μF	2
C47	ECCF1H471J	470pF	1
C48	ECQG1H222KZ	0.0022μF	1
C49	ECCF1H471J	470pF	1
C50, 51	ECCF1H680J	68pF	2
C52	ECQG1H332KZ	0.0033μF	1
C53	ECEA1HKA010	1μF, 50V	1
C54	ECQG1H102KZ	0.001μF	1
C55	ECRF1H104ZF	0.1μF	1
C56	ECEA1HKA010	1μF, 50V	1
C57, 58	ECEA1CKA470	47μF, 16V	2
C59	ECQG1H472KZ	0.0047μF	1
C60	ECKF1E473ZV	0.047μF	1
C61	ECEA1HKA010	1μF, 50V	1
C62	ECEA1CKA100	10μF, 16V	1
C63	ECEA1HKA010	1μF, 50V	1
C64	ECQG1H472KZ	0.0047μF	1
C65	ECRF1H104ZF	0.1μF	1
C66~69	ECEA1HKN010	1μF, 50V	4
C80, 81	ECCF1H220J	22pF	2
C90	ECCF1H680J	68pF	1
C92	ECCF1H471J	470pF	1
C93	ECCF1H101J	100pF	1
C96, 97	ECQG1H102KZ	0.001μF	2
C98, 99	ECCF1H471J	470pF	2
C102, 103	ECQB1H473JF	0.047μF	2
C104	ECQV1H104JM	0.1μF	1
C105	ECCF1H470J	47pF	1
C106	ECEA1CKA100	10μF, 16V	1
C107	ECEA1CKA470	47μF, 16V	1
C108	ECCF1H471J	470pF	1
C109	ECQG1H102KZ	0.001μF	1
C110, 111	ECCF1H221J	220pF	2
C112, 113	ECQG1H102KZ	0.001μF	2
C114	ECEA1CKA470	47μF, 16V	1
C115	ECQG1H102KZ	0.001μF	1
C116	ECEA1CKA470	47μF, 16V	1
C117	ECQG1H102KZ	0.001μF	1
C118	ECEA1CKA470	47μF, 16V	1
C119	ECQG1H102KZ	0.001μF	1
C120, 121	ECCF1H101J	100pF	2
C122	ECEA1CKA330	33μF, 16V	1
C123, 124	ECCF1H101J	100pF	2
C125	ECEA1CKA100	10μF, 16V	1
C126, 127	ECCF1H101J	100pF	2
C128	ECEA1CKA100	10μF, 16V	1
C130	ECQG1H222KZ	0.0022μF	1
C131	ECEA1CKA470	47μF, 16V	1
C132	ECQG1H472KZ	0.0047μF	1
C133	ECQB1H223JF	0.022μF	1
C134	ECQG1H102KZ	0.001μF	1
C135	ECQB1H103JF	0.01μF	1
C136	ECEA1HKN010	1μF, 50V	1
C137	ECQB1H153JF	0.015μF	1

Ref. No.	Part No.	Description	P/S
C138	ECQV1H154JM	0.15µF	1
C139	ECEA0JKA470	47µF, 6.3V	1
C141	ECQG1H472KZ	0.0047µF	1
C142	ECEA0JKA330	33µF, 6.3V	1
C143	ECEA1CKA470	47µF, 16V	1
C144	ECQV1H154JM	0.15µF	1
C145	ECEA1CKA470	47µF, 16V	1
C146	ECEA1CKA101	100µF, 16V	1
C147	ECQV1H104JM	0.1µF	1
C148	ECQB1H473JF	0.047µF	1
C149, 150	ECKF1E473ZV	0.047µF	2
C151, 152	ECEA1CKA100	10µF, 16V	2
C163, 164	ECKF1E473ZV	0.047µF	2
C170	ECQG1H222KZ	0.0022µF	1
C171	ECEA1CKA331	16V 330µF	1
C172	ECEA1CKA470	47µF, 16V	1
C219	ECQG1H222KZ	0.0022µF	1
C301	ECEA1HKN010	1µF, 50V	1
C302	ECEA1HKA010	1µF, 50V	1
C303	ECCF1H151J	150pF	1
C304	ECCF1H471J	470pF	1
C305	ECCF1H221J	220pF	1
C400~403	ECCF1H220J	22pF	4

JK JACK CIRCUIT

	Ref. No.	Part No.	Description	P/S
	INTEGRATED CIRCUIT			
	IC1	SVIGTLP513	Photo Coupler	1
	TRANSISTORS			
S	Q1, 2	2SA1015-GR	2SA933STRS (SUB. Part)	2
	DIODES			
	D1~5	MA165TA5	Diode	5
	COILS			
	L1~3	QLQGT3T150SA	Coil	3
	JACKS			
	JK1, 2	SJJG100A	PHONES 1, 2	2
	JK3~6	QJJG003AA	LINE OUT, AUX IN	4
	JK7~9	SJSG1370A	MIDI IN, OUT, THRU	3
	WIRES			
	W1, 2	QEXGRA01009A	Wire	2
	RESISTORS			
	R1	ERDS2TJ104	100kΩ	1
	R2	ERDS2TJ221	220Ω	1
	R3	ERDS2TJ104	100kΩ	1
	R4	ERDS2TJ221	220Ω	1
	R5	ERDS2TJ103	10kΩ	1
	R6	ERDS2TJ221	220Ω	1
	R7	ERDS2TJ331	330Ω	1
	R8~11 ⚠	ERG1ANJP680S	68Ω, 1W, Flame-Proof	4
	R12, 13	ERDS2TJ101	100Ω	2
	CAPACITORS			
	C1	ECKF1E473ZV	0.047µF	1
	C2	ECEA0JKA470	47µF, 6.3V	1
	C3, 4	ECCF1H221J	220pF	2
	C5	ECQB1H103JF	0.01µF	1
	C6	ECQG1H222KZ	0.0022µF	1
	C7	ECRF1H104ZF	0.1µF	1
	C8~10	ECQG1H222KZ	0.0022µF	3
	C11, 12	ECRF1H104ZF	0.1µF	2
	C13, 14	ECQG1H222KZ	0.0022µF	2

ACP AC POWER SUPPLY CIRCUIT

Ref. No.	Part No.	Description	P/S
LINE FILTER			
L1 ⚠	SLTGLF3	Line Filter	1
JACKS			
JK1 ⚠	SJVD0203B	AC Inlet	1
JK2	QJSG002AA	PEDAL IN	1
SWITCH			
S1 ⚠	SSRG100A	Voltage Selector	1
FUSES			
F1 ⚠	XBA1C63NU100	6.3A, 125V M MC XM only	1
F1 ⚠	XBA2C40TB0	T4A, 250V EK X XR XS XD XT only	1
F2, 3 ⚠	XBA2C20TB0	T2A, 250V EK X XR XS XD XT only	2
F3 ⚠	XBA2C20TB0	T2A, 250V Other areas	1
CAPACITORS			
C1 ⚠	ECQU2A104MN	0.1µF, 250V, Across-the Line Capacitor	1
C2 ⚠	ECKCVA1472MF	4700pF, Line-Capacitor	1
C3	ECRF1H104ZF	0.1µF	1
AC INLET COVER			
	SJS9334A	AC Inlet Cover EL XR only	1
	SJS9231A	AC Inlet Cover Other areas	1

AS AMP & POWER SUPPLY CIRCUIT

	Ref. No.	Part No.	Description	P/S
	INTEGRATED CIRCUITS			
	IC1	SVIGM5F7815	+15V Voltage Regulator	1
	IC2	SVIGM5F7915	−15V Voltage Regulator	1
S	IC3, 5~9	SVIGM5218L	Operational Amplifier	6
	IC4	SVIGM5291P	Switching Regulator	1
	TRANSISTORS			
S	Q1, 2, 4, 12, 17, 22	2SA1015-GR	2SA933STRS (SUB. Part)	6
S	Q3, 5, 7, 10, 11, 15, 16, 20, 21	2SC1815GR	Transistor	9
	Q6	2SD1266P	Transistor	1
	Q9	2SA1643	Transistor	1
○	Q13, 18, 23	2SB946P	Transistor	3
○	Q14, 19, 24	2SD1271P	Transistor	3
	DIODES			
	D1, 2 ⚠	SVDGERA1502	Rectifier	2
	D5~8, 11~14 ⚠	SVDS3V20	Rectifier	8
○	D17, 21~32	MA167TA5	Diode	13
	D18	MA4082	Zenner , 8.2V	1
	D19	SVDGRK14S	Diode	1
	D20	MA2062LF	Zener, 6.2V	1
	COILS			
	L1, 2	QLCGTJR10KA	Coil	2
	L3, 4	QLCGTKR68KA	0.68mH	2
	FUSES			
	F4~6 ⚠	XBA1C25NU100	2.5A, 125V M MC XM only	3
	F4~6 ⚠	XBA2C20TB0	T2A, 250V Other areas	3
	RESISTORS			
	R1, 2	ERDS2TJ103	10kΩ	2
	R3	ERDS2TJ331	330Ω	1
	R4	ERDS2TJ103	10kΩ	1
	R5	ERDS2TJ472	4.7kΩ	1
	R6, 7	ERDS2TJ103	10kΩ	2
	R8	ERDS2TJ472	4.7kΩ	1
	R9, 10 ⚠	ERQ14AJ2R0	2Ω, 1/4W, Fuse Type	2
	R11 ⚠	ERX1ANJPR22S	0.22Ω, 1W, Flame-Proof	1
	R12	ERDS2TJ101	100Ω	1
	R13	ERDS2TJ471	470Ω	1
	R14	ERDS2TJ470	47Ω	1
	R15 ⚠	ERG1ANJP221S	220Ω, 1W, Flame-Proof	1
	R16	ER0S2CKF3571	3.57kΩ, ±1%	1
	R17	ER0S2CKF1001	1kΩ, ±1%	1
	R18	ERDS2TJ153	15kΩ	1
	R19	ER0S2CKF1001	1kΩ, ±1%	1
	R20	ERDS2TJ472	4.7kΩ	1
	R21	ERDS2TJ103	10kΩ	1
	R22	ERDS2TJ561	560Ω	1
	R23, 24	ER0S2CKF1001	1kΩ, ±1%	2
	R25	ERDS2TJ332	3.3kΩ	1
	R26	ER0S2CKF1202	12kΩ, ±1%	1
	R27	ER0S2CKF1001	1kΩ, ±1%	1
	R29	ERDS2TJ224	220kΩ	1
	R32	ERDS2TJ102	1kΩ	1
	R33	ERDS2TJ222	2.2kΩ	1
	R40	ERDS2TJ681	680Ω	1
	R41	ERDS2TJ683	68kΩ	1
	R45	ERDS2TJ223	22kΩ	1
	R46	ERDS2TJ104	100kΩ	1

	Ref. No.	Part No.	Description	P/S
	R47	ERDS2TJ222	2.2kΩ	1
	R48	ERDS2TJ472	4.7kΩ	1
	R50	ERDS2TJ124	120kΩ	1
	R51	ERDS2TJ222	2.2kΩ	1
	R52	ERDS2TJ104	100kΩ	1
	R54	ERDS2TJ104	100kΩ	1
	R55	ERDS2TJ473	47kΩ	1
	R62	ERDS2TJ681	680Ω	1
	R63	ERDS2TJ683	68kΩ	1
	R67	ERDS2TJ223	22kΩ	1
	R68	ERDS2TJ104	100kΩ	1
	R69	ERDS2TJ222	2.2kΩ	1
	R70	ERDS2TJ472	4.7kΩ	1
	R72	ERDS2TJ222	2.2kΩ	1
	R73	ERDS2TJ124	120kΩ	1
	R74	ERDS2TJ472	4.7kΩ	1
	R75	ERDS2TJ333	33kΩ	1
	R76	ERDS2TJ104	100kΩ	1
	R77, 78	ERDS2TJ471	470Ω	2
	R79	ERDS2TJ102	1kΩ	1
	R80	ERDS2TJ472	4.7kΩ	1
	R81	ERDS2TJ152	1.5kΩ	1
	R82	ERDS2TJ222	2.2kΩ	1
	R83	ERDS2TJ472	4.7kΩ	1
	R84~87	ERDS2TJ470	47Ω	4
	R89 ⚠	ERD50FJ680	68Ω, 1/2W, Flame-Proof	1
	R90 ⚠	ERD25FVJ4R7	4.7Ω, 1/4W, Flame-Proof	1
	R91	ERDS2TJ472	4.7kΩ	1
	R92	ERDS2TJ473	47kΩ	1
	R93	ERDS2TJ104	100kΩ	1
	R94, 95	ERDS2TJ471	470Ω	2
	R96	ERDS2TJ102	1kΩ	1
	R97	ERDS2TJ472	4.7kΩ	1
	R98	ERDS2TJ152	1.5kΩ	1
	R99	ERDS2TJ222	2.2kΩ	1
	R100	ERDS2TJ472	4.7kΩ	1
	R101~104	ERDS2TJ470	47Ω	4
	R106 ⚠	ERD50FJ680	68Ω, 1/2W, Flame-Proof	1
	R107 ⚠	ERD25FVJ4R7	4.7Ω, 1/4W, Flame-Proof	1
	R108	ERDS2TJ472	4.7kΩ	1
	R109	ERDS2TJ333	33kΩ	1
	R110	ERDS2TJ104	100kΩ	1
	R111, 112	ERDS2TJ471	470Ω	2
	R113	ERDS2TJ102	1kΩ	1
	R114	ERDS2TJ472	4.7kΩ	1
	R115	ERDS2TJ152	1.5kΩ	1
	R116	ERDS2TJ222	2.2kΩ	1
	R117	ERDS2TJ472	4.7kΩ	1
	R118~121	ERDS2TJ470	47Ω	4
	R123 ⚠	ERD50FJ680	68Ω, 1/2W, Flame-Proof	1
	R124 ⚠	ERD25FVJ4R7	4.7Ω, 1/4W, Flame-Proof	1
	R134	ERDS2TJ222	2.2kΩ	1
○	R135	ERD2FCVG220	22Ω, 1/4W, Fuse Type	1
	R136	ERDS2TJ223	22kΩ	1
	CAPACITORS			
	C1 ⚠	ECQE1A104M6	0.1μF, 125V	1
	C2~7	ECEA1VU332	3300μF, 35V	6
	C8, 9	ECEA1VKG100	10μF, 35V	2
	C12, 13	ECEA1VKG100	10μF, 35V	2
	C16~19	ECRF1H104ZF	0.1μF	4
	C20	ECEA1VKG100	10μF, 35V	1
	C21	ECCF1H101J	100pF	1
	C22~24	ECEA0JU102	1000μF, 6.3V	3
	C25, 26	ECRF1H104ZF	0.1μF	2
	C30	ECQB1H333JF	0.033μF	1
	C31	ECQB1H332JF	0.0033μF	1

Ref. No.	Part No.	Description	P/S
C32, 33	ECQB1H222JF	0.0022μF	2
C34, 35	ECQB1H153JF	0.015μF	2
C36	ECQB1H473JF	0.047μF	1
C37, 38	ECQB1H153JF	0.015μF	2
C42	ECQB1H333JF	0.033μF	1
C43	ECQB1H332JF	0.0033μF	1
C44, 45	ECQB1H222JF	0.0022μF	2
C46	ECQB1H153JF	0.015μF	1
C49	ECEA1HKN010	1μF, 50V	1
C50	ECCF1H100D	10pF	1
C51	ECCF1H220J	22pF	1
C52	ECQV1H104JM	0.1μF	1
C53	ECEA1HKN010	1μF, 50V	1
C54	ECCF1H100D	10pF	1
C55	ECCF1H220J	22pF	1
C56	ECQV1H104JM	0.1μF	1
C57	ECEA1HKN010	1μF, 50V	1
C58	ECCF1H100D	10pF	1
C59	ECCF1H220J	22pF	1
C60	ECQV1H104JM	0.1μF	1
C61, 62	ECEA50Y10	10μF, 50V	2
C63, 64	ECEA50Y15	15μF, 50V	2
C65, 66	ECRF1H104ZF	0.1μF	2
C69~71	ECCF1H101J	100pF	3

NW NETWORK CIRCUIT

Ref. No.	Part No.	Description	P/S
RESISTORS			
○ R1, 2 ⚠	ERF5ZXK3R3	3.3Ω, 5W, Flame-Proof	2
CAPACITORS			
C1, 2	ECEA50Y1	1μF, 50V	2

CPL(1) UPPER CONTROL PANEL LEFT (1) CIRCUIT

Ref. No.	Part No.	Description	P/S
INTEGRATED CIRCUITS			
IC1	SVIGM603A121	Gate Array	1
IC2, 3	HD74LS07P	Hex Buffers	2
IC4	SVIGUPD7225	LCD Driver	1
TRANSISTORS			
Q1~4	2SA830SB	Transistor	4
DIODES			
D6, 7, 9~47	MA165TA5	Diode	41
D106~122, 124, 125, 130~142	LN282R	LED (Red)	32
D123, 126~129	LN382G	LED (Green)	5
SWITCHES			
SW6, 7, 9~47	QSPG1005AA	Push Switch	41

Ref. No.	Part No.	Description	P/S
IC PROTECTOR			
IP1 ⚠	ICP-N10T104	IC Protector	1
WIRE			
W1	QEXG01001RA	Wire	1
○ W2	QEXGEH03008A	Wire with Connector	1
RESISTORS			
R1	ERDS2TJ184	180kΩ	1
R2	ERDS2TJ221	220Ω	1
R3	ERDS2TJ222	2.2kΩ	1
R4	ERDS2TJ102	1kΩ	1
R5~8	ERDS2TJ103	10kΩ	4
R9~19	ERDS2TJ680	68Ω	11
R20~27	ERDS2TJ103	10kΩ	8
R28	ERDS2TJ680	68Ω	1
R101	ERDS2TJ472	4.7kΩ	1
R102	ERDS2TJ102	1kΩ	1
R103~105	ERDS2TJ472	4.7kΩ	3
R106	ERDS2TJ184	180kΩ	1
CAPACITORS			
C1	ECEA0JKA470	47μF, 6.3V	1
C2	ECBA1H101KB	100pF	1
C3	ECRF1H104ZF	0.1μF	1
C4	ECBA1C682MR5	0.0068μF	1
C5	ECBA1H101KB	100pF	1
C6, 7	ECRF1H104ZF	0.1μF	2
C101	ECEA0JKA470	47μF, 6.3V	1
C102	ECRF1H104ZF	0.1μF	1
C103	ECBA1H101KB	100pF	1
DISPLAY			
○ EL1	QHQG002AA	Back Light	1
○ LCD1	SXEG100A	LCD Display	1

CPL(2) UPPER CONTROL PANEL LEFT (2) CIRCUIT

Ref. No.	Part No.	Description	P/S
DIODES			
D1~5, 8	MA165TA5	Diode	6
D101~105	LN282R	LED (Red)	5
SWITCHES			
SW1~5, 8	QSPG1005AA	Push Switch	6

CPR CONTROL RIGHT CIRCUIT

Ref. No.	Part No.	Description	P/S
INTEGRATED CIRCUITS			
IC1	SVIGM603A121	Gate Array	1
IC2~4	HD74LS07P	Hex Buffers	3

	Ref. No.	Part No.	Description	P/S
	TRANSISTORS			
	Q1~4	2SA830SB	Transistor	4
S	Q5	2SC2320LFG	2SC1310FG (SUB. Part)	1
	DIODES			
	D1~79	MA165TA5	Diode	79
	D101~158	LN282R	LED (Red)	58
	D159~162	LN382G	LED (Green)	4
	COMPONENT COMBINATIONS			
	Z1	EXBPI8103JM	10kΩ×8	1
	SWITCHES			
	SW1~78	QSPG1005AA	Push Switch	78
	IC PROTECTOR			
	IP1 ⚠	ICP-N10T104	IC Protector	1
	VARIABLE RESISTOR			
	VR1	QRVG15N01B14	10kΩ B, Contrast	1
	WIRE			
	W1	QEXG01001RA	Wire	1
	RESISTORS			
	R1	ERDS2TJ184	180kΩ	1
	R2	ERDS2TJ221	220Ω	1
	R3	ERDS2TJ222	2.2kΩ	1
	R4	ERDS2TJ102	1kΩ	1
	R5~8	ERDS2TJ103	10kΩ	4
	R10~26	ERDS2TJ680	68Ω	17
	R27	ERDS2TJ222	2.2kΩ	1
	R28	ERDS2TJ225	2.2MΩ	1
	R29	ERDS2TJ155	1.5MΩ	1
	R30	ERDS2TJ105	1MΩ	1
	R31	ERDS2TJ474	470kΩ	1
	CAPACITORS			
	C1	ECEA0JKA470	47μF, 6.3V	1
	C2	ECBA1H101KB	100pF	1
	C3	ECRF1H104ZF	0.1μF	1
	C4	ECBA1C682MR5	0.0068μF	1
	C5	ECBA1H101KB	100pF	1
	C6~8	ECRF1H104ZF	0.1μF	3
	C9	ECEA1HKA2R2	2.2μF, 50V	1

ELC EL CONVERTER CIRCUIT

	Ref. No.	Part No.	Description	P/S
	TRANSISTOR			
	Q1	2SC3940ARS	Transistor	1
	TRANSFORMER			
○	T1	QTDG001A	Transformer	1

	Ref. No.	Part No.	Description	P/S
	RESISTORS			
	R1 ⚠	ERD2FCVJ4R7	4.7Ω, 1/4W, Fuse Type	1
	R2	ERDS2TJ470	47Ω	1
	R3	ERDS2TJ222	2.2kΩ	1
	CAPACITORS			
	C1	ECEA0JKA101	100μF, 6.3V	1
	C2	ECRF1H104ZF	0.1μF	1
	C3	ECEA1CKN100	10μF, 16V	1

CPSL LOWER CONTROL PANEL CIRCUIT

	Ref. No.	Part No.	Description	P/S
	INTEGRATED CIRCUITS			
	IC1	SVIGM603A121	Gate Array	1
	IC2, 3	HD74LS07P	Hex Buffers	2
	TRANSISTORS			
	Q1~4	2SA830SB	Transistor	4
	DIODES			
	D1~41	MA165TA5	Diode	41
	D101~111, 113, 115~139	LN282R	LED (Red)	37
	D112, 114	LN382G	LED (Green)	2
	SWITCHES			
	SW1~41	QSPG1005AA	Push Switch	41
	IC PROTECTOR			
	IP1 ⚠	ICP-N10T104	IC Protector	1
	WIRE			
	W1	QEXG01001RA	Wire	1
	RESISTORS			
	R1	ERDS2TJ184	180kΩ	1
	R2	ERDS2TJ221	220Ω	1
	R3	ERDS2TJ222	2.2kΩ	1
	R4	ERDS2TJ102	1kΩ	1
	R5~8	ERDS2TJ103	10kΩ	4
	R9~15	ERDS2TJ680	68Ω	7
	R16~18	ERDS2TJ680	68Ω	3
	R19~26	ERDS2TJ103	10kΩ	8
	CAPACITORS			
	C1	ECEA0JKA470	47μF, 6.3V	1
	C2	ECBA1H101KB	100pF	1
	C3	ECRF1H104ZF	0.1μF	1
	C4	ECBA1C682MR5	0.0068μF	1
	C5	ECBA1H101KB	100pF	1
	C6, 7	ECRF1H104ZF	0.1μF	2

CPSQ SEQUENCER CONTROL CIRCUIT

Ref. No.	Part No.	Description	P/S
INTEGRATED CIRCUITS			
IC1	SVIGM603A121	Gate Array	1
IC2	HD74LS07P	Hex Buffers	1
TRANSISTORS			
Q1~4	2SA830SB	Transistor	4
DIODES			
D1~19	MA165TA5	Diode	19
D101~109	LN282R	LED (Red)	9
D110~124	LN382G	LED (Green)	15
COMPONENT COMBINATIONS			
Z1	EXBPI8103JM	10kΩ×8	1
SWITCHES			
SW1~19	QSPG1005AA	Push Switch	19
IC PROTECTOR			
IP1 ⚠	ICP-N10T104	IC Protector	1
VARIABLE RESISTORS			
VR1	EVD06510B24G	20kΩ B, Main Volume	1
WIRE			
W1	QEXG01008RA	Wire	1
RESISTORS			
R1	ERDS2TJ184	180kΩ	1
R2	ERDS2TJ221	220Ω	1
R3	ERDS2TJ222	2.2kΩ	1
R4	ERDS2TJ102	1kΩ	1
R5~8	ERDS2TJ103	10kΩ	4
R9~14	ERDS2TJ680	68Ω	6
CAPACITORS			
C1	ECEA0JKA470	47μF, 6.3V	1
C2	ECBA1H101KB	100pF	1
C3	ECRF1H104ZF	0.1μF	1
C4	ECBA1C682MR5	0.0068μF	1
C5	ECBA1H101KB	100pF	1
C6, 7	ECRF1H104ZF	0.1μF	2

Ref. No.	Part No.	Description	P/S
RESISTORS			
R1, 2	ER0S2CKF4700	470Ω, ±1%	2
R3	ERDS2TJ472	4.7kΩ	1
R5	ER0S2CKF4700	470Ω, ±1%	1
R7	ERDS2TJ472	4.7kΩ	1
R8	ERDS2TJ103	10kΩ	1
R9	ERDS2TJ472	4.7kΩ	1
R10	ERDS2TJ103	10kΩ	1
R11	ERDS2TJ472	4.7kΩ	1
R12	ERDS2TJ103	10kΩ	1
R13	ERDS2TJ472	4.7kΩ	1
R14	ERDS2TJ103	10kΩ	1
R15	ERDS2TJ472	4.7kΩ	1
R16	ERDS2TJ103	10kΩ	1
R17	ERDS2TJ472	4.7kΩ	1
R18	ERDS2TJ103	10kΩ	1
R19	ERDS2TJ472	4.7kΩ	1
R20	ERDS2TJ103	10kΩ	1
R21	ERDS2TJ472	4.7kΩ	1
R22	ERDS2TJ103	10kΩ	1
R23~29	ER0S2CKF4700	470Ω, ±1%	7
R30	ER0S2CKF1001	1kΩ, ±1%	1
R32	ERDS2TJ472	4.7kΩ	1
R33	ERDS2TJ103	10kΩ	1
R34	ERDS2TJ472	4.7kΩ	1
R35	ERDS2TJ103	10kΩ	1
R36	ERDS2TJ472	4.7kΩ	1
R37	ERDS2TJ103	10kΩ	1
R38	ERDS2TJ472	4.7kΩ	1
R39	ERDS2TJ103	10kΩ	1
R40	ERDS2TJ472	4.7kΩ	1
R41	ERDS2TJ103	10kΩ	1
R42~45	ER0S2CKF4700	470Ω, ±1%	4
R46	ER0S2CKF2201	2.2kΩ, ±1%	1
R51	ERDS2TJ472	4.7kΩ	1

PKB PEDAL KEYBOARD CIRCUIT

	Ref. No.	Part No.	Description	P/S
	TRANSISTORS			
S	Q1, 2, 4	2SA1015-GR	2SA933STRS (SUB. Part)	3
S	Q5~17	2SC2320LFG	2SC1310FG (SUB. Part)	13
	SWITCHES			
	S1~14	SHGG50A	Rubber Switch (5 pcs. on one)	14

EXP EXPRESSION CIRCUIT

Ref. No.	Part No.	Description	P/S
CDS			
CDS1	SVEG5	Light Sensitive Device	1

MKB1 MANUAL KEYBOARD 1 CIRCUIT

	Ref. No.	Part No.	Description	P/S
	INTEGRATED CIRCUITS			
	IC1	D65022CW-285	Gate Array	1
	DIODES			
S	D1~86	MA162A	MA150IR (SUB. Part)	86
	OSCILLATOR			
	X1	EF0EC4004A3	4MHz, Ceramic Oscillator	1

	Ref. No.	Part No.	Description	P/S
	SWITCHES			
	S1~7	SSPG7004A	Rubber Switch (7 pcs. on one)	7
	S8~43	SSPG6004A	Rubber Switch (6 pcs. on one)	36
	RESISTORS			
	R1	ERDS2TJ101	100Ω	1
	CAPACITORS			
	C1, 3	ECBA1H681KB	680pF	2
	C2	ECRF1H104ZF	0.1μF	1
	C4	ECEA0JU470	47μF, 6.3V	1

MKB2 MANUAL KEYBOARD 2 CIRCUIT

	Ref. No.	Part No.	Description	P/S
	DIODES			
S	D1~12	MA162A	MA150IR (SUB. Part)	12
	COMPONENT COMBINATIONS			
	Z1	EXBPI8472JM	4.7kΩ×8	1
	SWITCHES			
	S1~6	SSPG6004A	Rubber Switch (6 pcs. on one)	6

FDC FD CONTROL CIRCUIT

	Ref. No.	Part No.	Description	P/S
	INTEGRATED CIRCUITS			
	IC1	SVIGD72067C	Floppy Disk Controller	1
	IC2	SVIGM74H02	Quad 2-input NOR Gates	1
	IC3	SVIGM74H00	Quad 2-input NAND Gates	1
	IC4	SVIGM74H14	Hex Schmitt-trigger Inverters	1
	IC5	SVIGM74H04	Hex Inverters	1
	OSCILLATOR			
	X1	QSXG1A3200A	32MHz, Quartz Oscillator	1
	COMPONENT COMBINATIONS			
	Z1, 2	EXBPI8103JM	10kΩ×8	2
	Z3	EXBPI8102JM	1kΩ×8	1
	RESISTORS			
	R1~4	ERDS2TJ472	4.7kΩ	4
	R5, 6	ERDS2TJ153	15kΩ	2
	R7	ERDS2TJ123	12kΩ	1
	R8	ERDS2TJ104	100kΩ	1

	Ref. No.	Part No.	Description	P/S
	CAPACITORS			
	C1, 2	ECBA1H100J	10pF	2
	C6	ECEA0JKA331	330μF, 6.3V	1
	C8~11	ECRF1H104ZF	0.1μF	4

FDCN FD CONNECTOR CIRCUIT

	Ref. No.	Part No.	Description	P/S
	RESISTORS			
	R1	ERDS2TJ331	330Ω	1
	R2	ERDS2TJ221	220Ω	1
	CAPACITORS			
	C1, 2	ECRF1H104ZF	0.1μF	2
	C3, 4	ECCF1H101J	100pF	2

■ WIRING PARTS

	Ref. No.	Part No.	Description	P/S
	W1	QEXGSS14040B	Connector with Wire	1
○	W2	QEXGSS14045A	Connector with Wire	1
○	W3	QEXGSS03065A	Connector with Wire	1
	W4	QEXG16008SSA	Connector with Wire	1
○	W5	QEXGSS04035A	Connector with Wire	1
	W6	QEXGSS08070B	Connector with wire	1
	W7	QEXGSS05045A	Connector with Wire	1
○	W8	QEXGSA13055A	Connector with Wire	1
○	W9	QEXGSA06060A	Connector with Wire	
○	W10	QEXGST12200A	Connector with Wire	1
○	W11	QEXGST10160A	Connector with Wire	1
○	W12	QEXGSA13015A	Connector with Wire	1
○	W13	QEXGSA13015A	Connector with Wire	1
○	W14	QEXGSA13015A	Connector with Wire	1
○	W15	QEXGSA07065A	Connector with Wire	1
	W16	QEXGVH03200B	Connector with Wire	1
	W17	QEXGEH04085B	Connector with wire	1
○	W18	QEXGVH07060B	Connector with Wire	1
○	W19	QEXGVH05035B	Connector with Wire	1
○	W20	QEXGVH06040B	Connector with Wire	1
	W21	QEXG06011ZA	Connector with Wire	1
○	W22	QEXGVH06025B	Connector with Wire	1
○	W23	QEXGVH04180B	Connector with Wire	1
○	W24	QEXGEH03085B	Connector with Wire	1
○	W25	QEXGZA08100B	Connector with Wire	1
	W26	QEXG04005LSA	Connector with Wire	1
	W27	SWKG0326LTA	Connector with Wire	1
○	W28	QEXGVH08120B	Connector with Wire	1
○	W29	QEXGEH03010B	Connector with Wire	1
○	W30	QEXGZA04010A	Connector with Wire	1
○	W31	QEXGSA13045A	Connector with Wire	1

REPLACEMENT PARTS LIST......Cabinet and Chassis Parts

Notes:

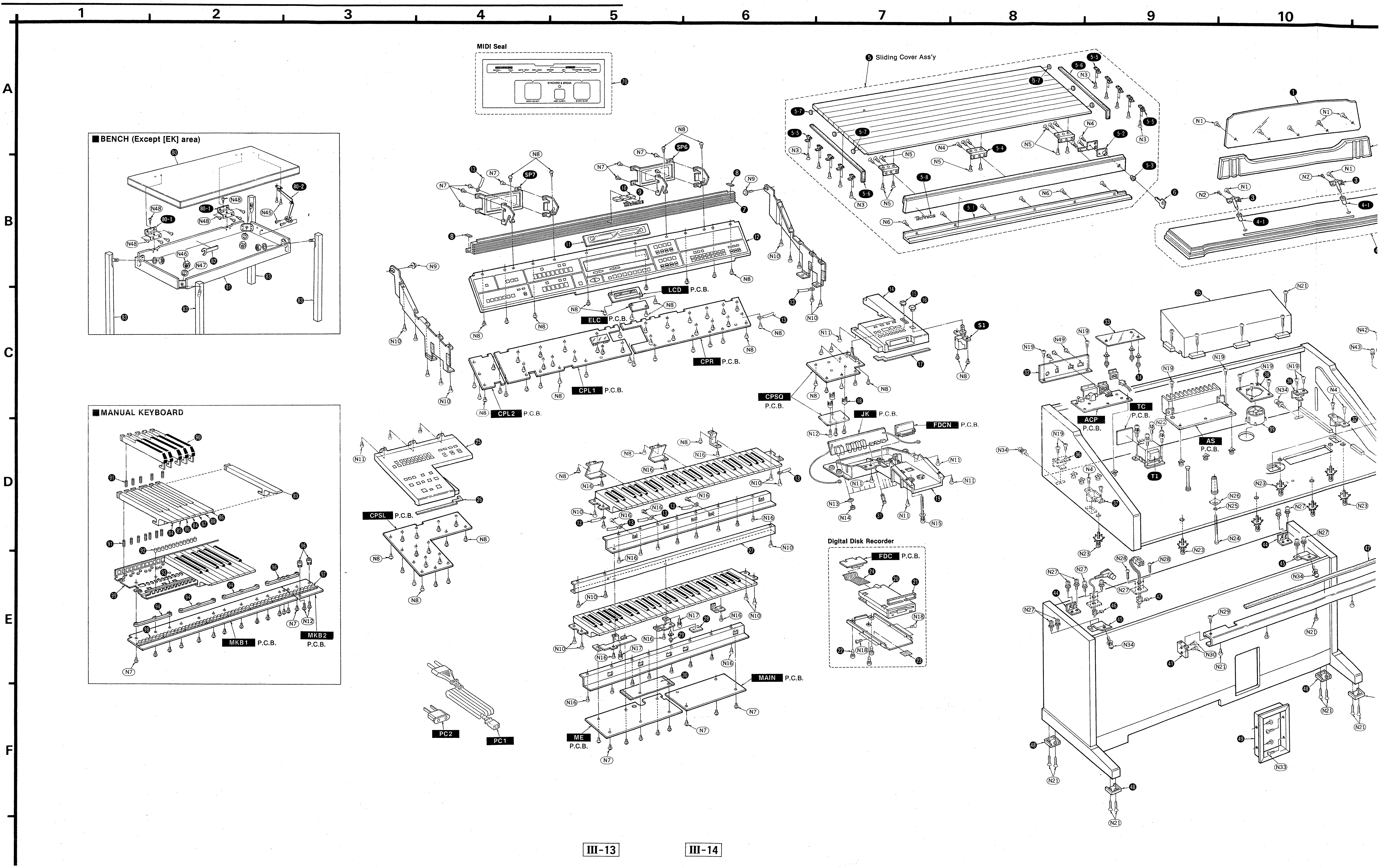
1. Important safety notice
   Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
2. ○ mark are new parts.
3. For part No. with area mark, check the area when placing an order.
4. The marking (RTL) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retension period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention.
   After the end of this period, the assembly will no longer be available.

■ CABINET & CHASSIS PARTS

Ref. No.		Part No.	Description	P/S
POWER SWITCH				
S1	⚠	SSHG1050A	Power Switch	1
SPEAKERS				
SP1		EAS20PL255A	Speaker, 20cm 4Ω	1
SP2, 3		SASG16PL03-F	16cm, 8Ω	2
SP4, 5		SASG25KH01-F	2.5cm, 4Ω	2
SP6, 7		EAS15S06A	6×13cm, 16Ω	2
TRANSFORMER				
T1	⚠	QTPG1N010A	Power Transformer, M XM MC only	1
T1	⚠	QTPG1N013A	Power Transformer, EK X XR XS XD XT only	1
T1	⚠	QTPG1N012A	Power Transformer, Others	1
POWER CORD & PLUG				
PC1	⚠	SJAG62	AC Power Cord, M XM MC only	1
PC1	⚠	SJAG61	AC Power Cord, XL XR only	1
PC1	⚠	VJA0733	AC Power Cord, EK XD only	1
PC1	⚠	QJAG001AA	AC Power Cord, XS only	1
PC1	⚠	SJAG65	AC Power Cord, Others	1
PC2	⚠	SJP5213-1	Attachment Plug, X XT only	1
DIODES				
D1		LN29RP	LED, Power Indicator	1
CABINET PARTS				
○ 1	PMMA	QGAG2004AA	Clear Panel, Music Rack	1
○ 2		QGAG1020AA	Ornament	1
3		SBLG230B	Stay	2
○ 4		QKQGA052AA	Top Cover Ass'y	1
4-1	ABS	QMRG7021AA	Sleeve	2
○ 5		QKQGF001AB	Sliding Cover Ass'y	1
○ 5-1	PVC	QGKG0010AA	Ornament	1
5-2		SBEG30A	Lock	1
5-3	ABS	SBEG40C	Staple	1
5-4		SBHG6007-1	Hinge	3
5-5	POM	SHRG9930A	Catch, Guide Rail	10
○ 5-6		QMFG1001AA	Felt	2
5-7		SHSG119	Felt	6
5-8		SGBG150A	Technics Badge	1
6		SBEG60A	Key	1
○ 7		QGKG002AB	Ornament	1
8		SHSG1830A	Felt	2
9		SGBG140A	Badge	1
○ 10	PMMA	QKQGZ019AA	Wood Plate	1
○ 11	PS	QKWG008AA	Display Cover Panel	1
○ 12		QGPG0047AB	Upper Control Panel	1
13		SUWG219	Binder	8
○ 14	PS	QGPG0034AD	Lower Control Panel, Right	1
15	ABS	SBNG7031A	Knob	1
16	ABS	QGUG1040AA	Button, Power Switch	1
○ 17		QMFG4088AA	Felt	1
18	PA	SHRG9760A	P.C.B. Holder	3
19	PS	QYPG1015AB	Jack Panel	1
○ 20		EME231DVA	DDR Drive Unit	1
21		QMFG1082AA	Felt	1
22	PA	SHRG9850A	P.C.B. Holder	3
○ 23		QMRG2022AA	Felt	1
24		QEUGR0W10A	Flat Cable	1
○ 25	PS	QGPG0048AB	Lower Control Panel, Left	1
○ 26		QMFG4087AA	Felt	1
○ 27		QGKG0007BA	Ornament	1
○ 28		QMRG2023AA	Felt	1
○ 29	PA	SHRG9520A	P.C.B. Holder	1
30		QSCG037A	Shield Parts	1
31	PA	SNEG1700A	Latch	6
○ 32		SMKG3485A	AC Panel, EK X XR XS XD XT only	1
○ 32		SMKG3484A	AC Panel, Others	1
○ 33	PVC	QMRG2015AA	ACP P.C.B. Cover	1
34	PA	SHRG9260A	P.C.B. Holder	3
○ 35		QKQGZ068AAK	AS P.C.B. Cover	1
36		SUWG3001A	Bracket	2
37		SUWG3010A	Bracket	2
○ 38		QMNG0025AA	Fan Moter Panel	1
39		SYE1128-4	Fan	1
○ 40		SXVG3031B	Knee Lever Ass'y	1
40-1		SSLG1005A	Leaf Switch	1
40-2		SSHG1020A	Push Switch	1
○ 41		SUWG1760A	Ornament Metal Plate	2
○ 42		SHSG3050A	Felt	1
○ 43		QKSGE003BA	Ornament	1
44		SUWG3020A	Bracket	2
○ 45		SUWG3032A	Bracket	2
○ 46	PA	SHRG1180A	Bushing	1
○ 47	PA	QMRG1002AA	Bushing	1
48	PP	SHRG2120D	Foot	4
49	PS	SGXG1100A	Ornament, Expression	1
50		SHSG4770A	Felt	1
51		SHSG1600B	Felt	1
52		SHSG1460A	Felt	14
○ 53	ABS	STBG1164A	Long Key (Brown)	8
54	ABS	STBG2052A	Black Key	5

Ref. No.			Part No.	Description	P/S
○	55	ABS	STBG1164A	Fullbass Pedal	1
	56		SGXG1390A	Ornament	1
	57		SUSG180A	Spring	14
	58		SHGG8130A	Rubber	14
	59		SHRG9240A	Spacer	14
○	60		QKUG1022AA	Rear Board (Lower)	1
○	61	ABS	SKEG7650A	Guide Rail	1
○	62	ABS	SKEG7640A	Guide Rail	1
○	63	ABS	SKEG7660A	Guide Rail	1
○	64	ABS	SKEG7670A	Guide Rail	1
○	65		SHSG3571A	Felt	2
	66		QMFG9013AA	Sound Absorbing Material	1
	67		SHSG9140A	Sound Absorbing Material	2
○	68		SXVG5150A	Expression Pedal Ass'y	1
	68-1		XAMR55P	Lamp	1
	68-2		RJS205ZA	Socket	1
	68-3		SHGG908	Lamp Holding Rubber	1
	68-4		SSHG14	Foot Switch	1
	69	PP	SHRG8130A	Speaker Cover	2
○	70		QQLG055A	MIDI Seal	1
BENCH					
	80		SKZGC850A	Seat	1
	80-1		SBHG50B	Hinge	2
	80-2		SBLG70A	Stay	1
	81		QKQGD026AA	Wood Frame	1
	82		SBEG190A	Spanner	1
	83		SKZGC471D	Leg	4
MANUAL KEYBOARD					
	84	AS	STBG1100A	White Key (C and F Key)	16
	85	AS	STBG1110A	White Key (D Key)	8
	86	AS	STBG1120A	White Key (E and B Key)	16
	87	AS	STBG1130A	White Key (G Key)	8
	88	AS	STBG1140A	White Key (A Key)	8
	89	AS	STBG1150A	White Key (Top Octave C Key)	2
	90	AS	STBG2070A	Black Key	40
	91		SUSG270A	Spring	98
	92		SHGG9051A	Key Guide Rubber	98
	93		SHSG1930A	Felt	4
	94	PS	SHRGA9010A	Spacer	6
	95	PS	SHRGA9020A	Spacer	2
	96	PS	SHRG9760A	P.C.B. Holder	4
	97		SSPG6004A	Rubber Switch (6 pcs. on one)	14
	98		SSPG7004A	Rubber Switch (7 pcs. on one)	2
○	99		STBG6201A	Chassis	2
SCREWS & WASHERS					
	N1		XTT4+14AFVC	Screw	7
	N2		XTB3+14AFVC	Screw	2
	N3		XTS4+12A	Screw	10
	N4		XTS3+12A	Screw	6
	N5		XTS35+12A	Screw	16
	N6		XTS3+10AFVC	Screw	6
	N7		XTW3+10T	Screw	45
	N8		XTW3+10Q	Screw	84
	N9		SNEG2400A	Screw with Washer	2
	N10		XTB4+12A	Screw	24
	N11		XTT4+12A	Screw	5
	N12		XTW3+14Q	Screw	7
	N13		SNEG770A	Washer	1
	N14		XNS12FZ	Nut	6
	N15		XYN4+F30	Screw with Washer	1
	N16		XTB3+5C	Screw	25
	N17		XYN5+C10	Screw with Washer	2
	N18		XSS3+6FZ	Screw	4
	N19		XTB35+12A	Screw	13
	N20		XTB3+8JFVC	Screw	3
	N21		XTB35+25A	Screw	13
	N22		XYN4+F14	Screw with Washer	4
	N23		QHDG006AB	Screw with Washer	7
	N24		XSN5+85FVC	Screw	1
	N25		XWA5B	Washer	1
	N26		SNEG150A	Washer	1
	N27		XYN4+F20FZ	Screw with Washer	12
	N28		QHDG004AA	Screw	2
	N29		XTB3+8BFVC	Screw	2
	N30		XTB35+20A	Screw	10
	N31		XTT35+10AFVC	Screw	6
	N32		XNG5BS	Nut	14
	N33		XTB3+14AFZVC	Screw	4
	N34		SNEG2270A	Screw with Washer	4
	N35		XTB3+6B	Screw	11
	N36		XTT4+14A	Screw	29
	N37		SNEG360A	Screw	14
	N38		XTT4+30AFVC	Screw	24
	N39		SNE499-1	Nut	12
	N40		XTT4+16AFZ	Screw	2
	N41		XTN26+6B	Screw	1
	N42		XTN2+10FFX	Screw	1
	N43		XYN3+C12	Screw with Washer	3
	N44		XYN3+F16FZ	Screw with Washer	2
	N45		XTS3+14A	Screw	4
	N46		XNH10G	Nut	4
	N47		XWB10B	Washer	4
	N48		XTB35+14AFVC	Screw	10

CABINET PARTS LOCATION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MIDI Seal
SYNCHRO & BREAK
5 Sliding Cover Ass'y
Technics
BENCH (Except [EK] area)
MANUAL KEYBOARD
SP6
SP7
LCD P.C.B.
ELC P.C.B.
CPR P.C.B.
CPL1 P.C.B.
CPL2 P.C.B.
CPSQ P.C.B.
JK P.C.B.
FDCN P.C.B.
S1
ACP P.C.B.
TC P.C.B.
AS P.C.B.
T1
CPSL P.C.B.
MKB1 P.C.B.
MKB2 P.C.B.
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ME P.C.B.
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PC2
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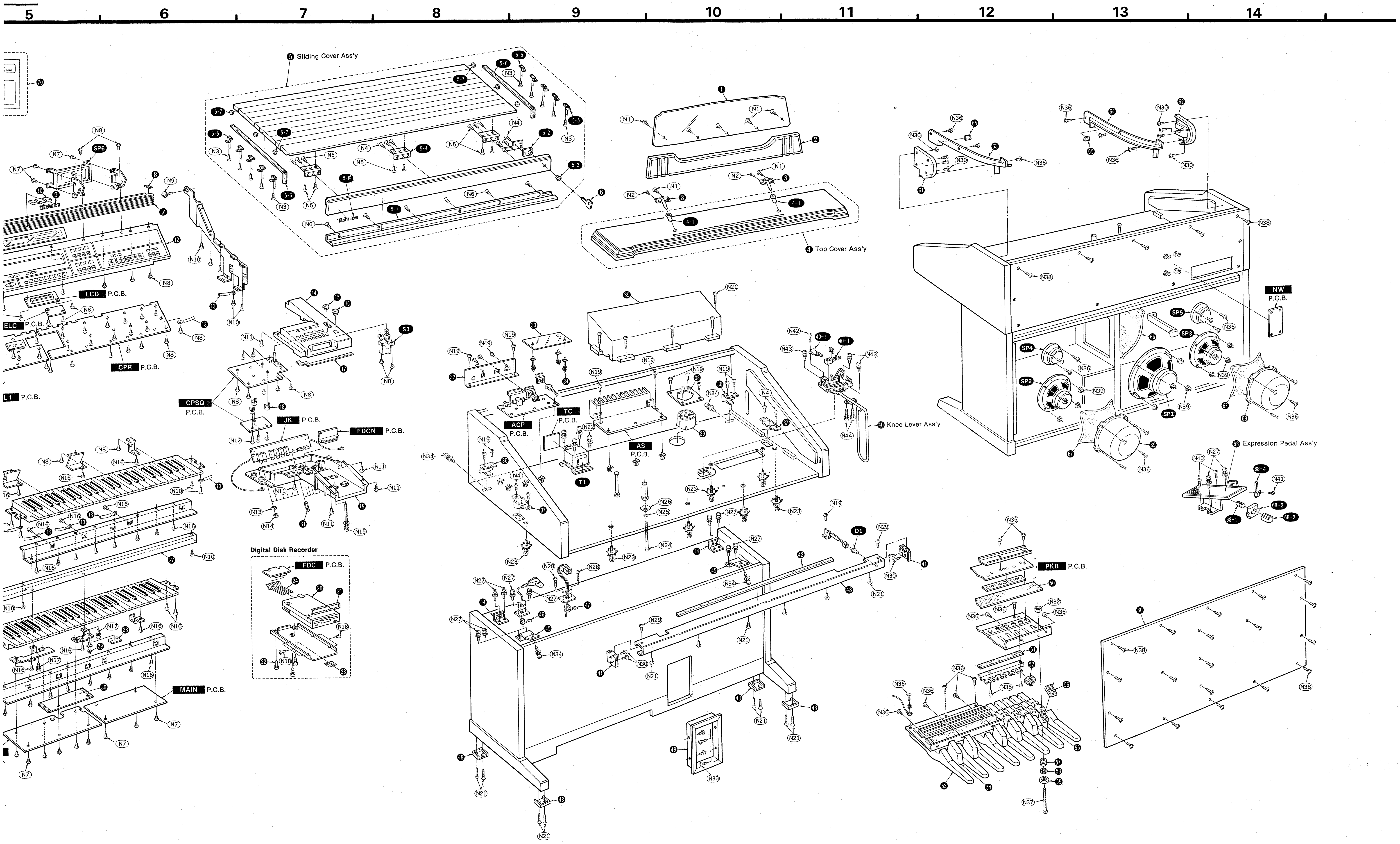
FDC P.C.B.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Top Cover Ass'y
Knee Lever Ass'y
Expression Pedal Ass'y
Digital Disk Recorder
LCD P.C.B.
ELC P.C.B.
CPR P.C.B.
L1 P.C.B.
CPSQ P.C.B.
JK P.C.B.
FDCN P.C.B.
FDC P.C.B.
MAIN P.C.B.
ACP P.C.B.
TC P.C.B.
AS P.C.B.
NW P.C.B.
PKB P.C.B.
SP1
SP2
SP3
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SP5
SP6
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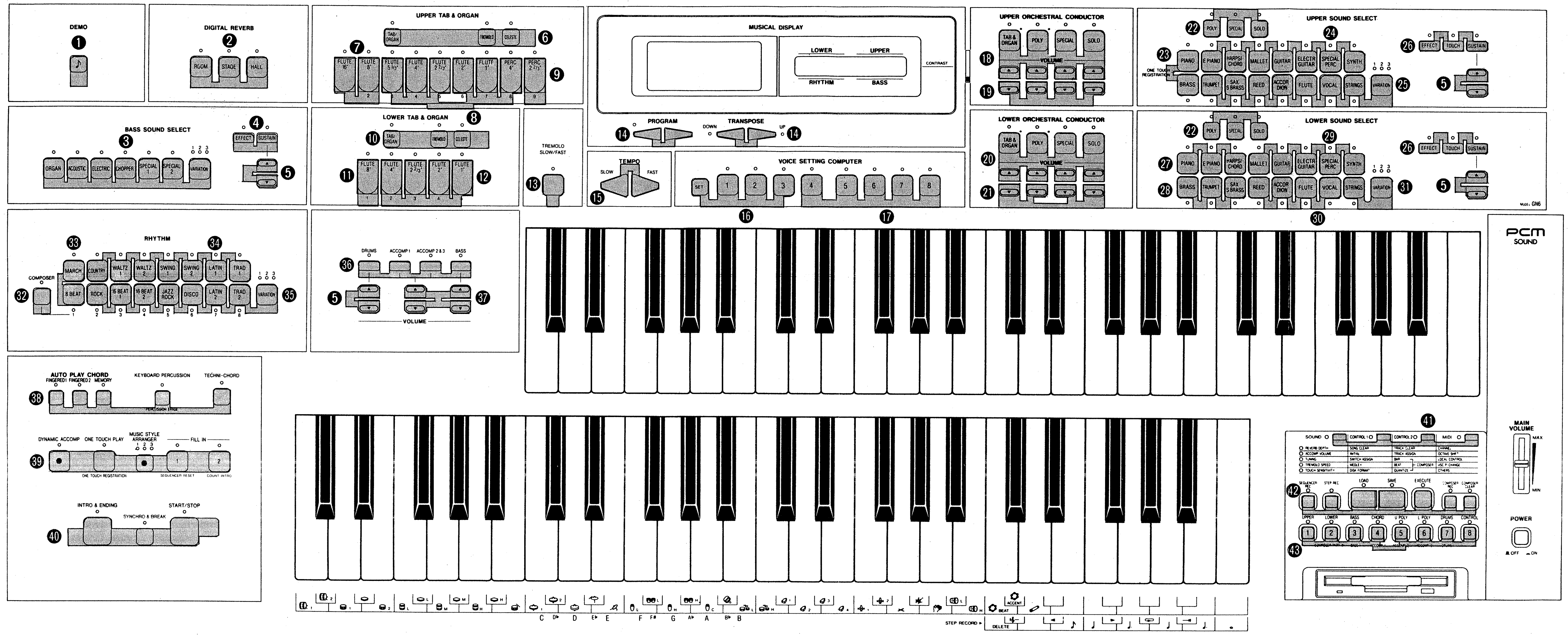
N49

BUTTON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ROOM
STAGE
HALL
UPPER TAB & ORGAN
TAB/ORGAN
TREMOLO
CELESTE
FLUTE 16'
FLUTE 8'
FLUTE 5 1/3'
FLUTE 4'
FLUTE 2 2/3'
FLUTE 2'
FLUTE 1'
PERC 4'
PERC 2 2/3'
MUSICAL DISPLAY
LOWER
UPPER
RHYTHM
BASS
CONTRAST
UPPER ORCHESTRAL CONDUCTOR
TAB & ORGAN
POLY
SPECIAL
SOLO
VOLUME
UPPER SOUND SELECT
EFFECT
TOUCH
SUSTAIN
PIANO
E.PIANO
HARPSI-CHORD
MALLET
GUITAR
ELECTR GUITAR
SPECIAL PERC
SYNTH
BRASS
TRUMPET
SAX S.BRASS
REED
ACCOR DION
FLUTE
VOCAL
STRINGS
VARIATION
ONE TOUCH REGISTRATION
BASS SOUND SELECT
ORGAN
ACOUSTIC
ELECTRIC
CHOPPER
SPECIAL 1
SPECIAL 2
LOWER TAB & ORGAN
TREMOLO SLOW/FAST
PROGRAM
TRANSPOSE
DOWN
UP
TEMPO
SLOW
FAST
VOICE SETTING COMPUTER
SET
LOWER ORCHESTRAL CONDUCTOR
LOWER SOUND SELECT
RHYTHM
COMPOSER
MARCH
COUNTRY
WALTZ 1
WALTZ 2
SWING 1
SWING 2
LATIN 1
TRAD 1
8 BEAT
ROCK
16 BEAT 1
16 BEAT 2
JAZZ ROCK
DISCO
LATIN 2
TRAD 2
DRUMS
ACCOMP 1
ACCOMP 2 & 3
BASS
VOLUME
PCM SOUND
AUTO PLAY CHORD
FINGERED 1
FINGERED 2
MEMORY
KEYBOARD PERCUSSION
TECHNI-CHORD
DYNAMIC ACCOMP
ONE TOUCH PLAY
MUSIC STYLE ARRANGER
FILL IN
ONE TOUCH REGISTRATION
SEQUENCER RESET
COUNT INTRO
INTRO & ENDING
SYNCHRO & BREAK
START/STOP
SOUND
CONTROL 1
CONTROL 2
MIDI
LOAD
SAVE
EXECUTE
UPPER
LOWER
CHORD
U.POLY
L.POLY
DRUMS
CONTROL
MAIN VOLUME
MAX
MIN
POWER
OFF
ON
STEP RECORD
DELETE
ACCENT
BEAT
C
D♭
D
E♭
E
F
F#
G
A♭
A
B♭
B
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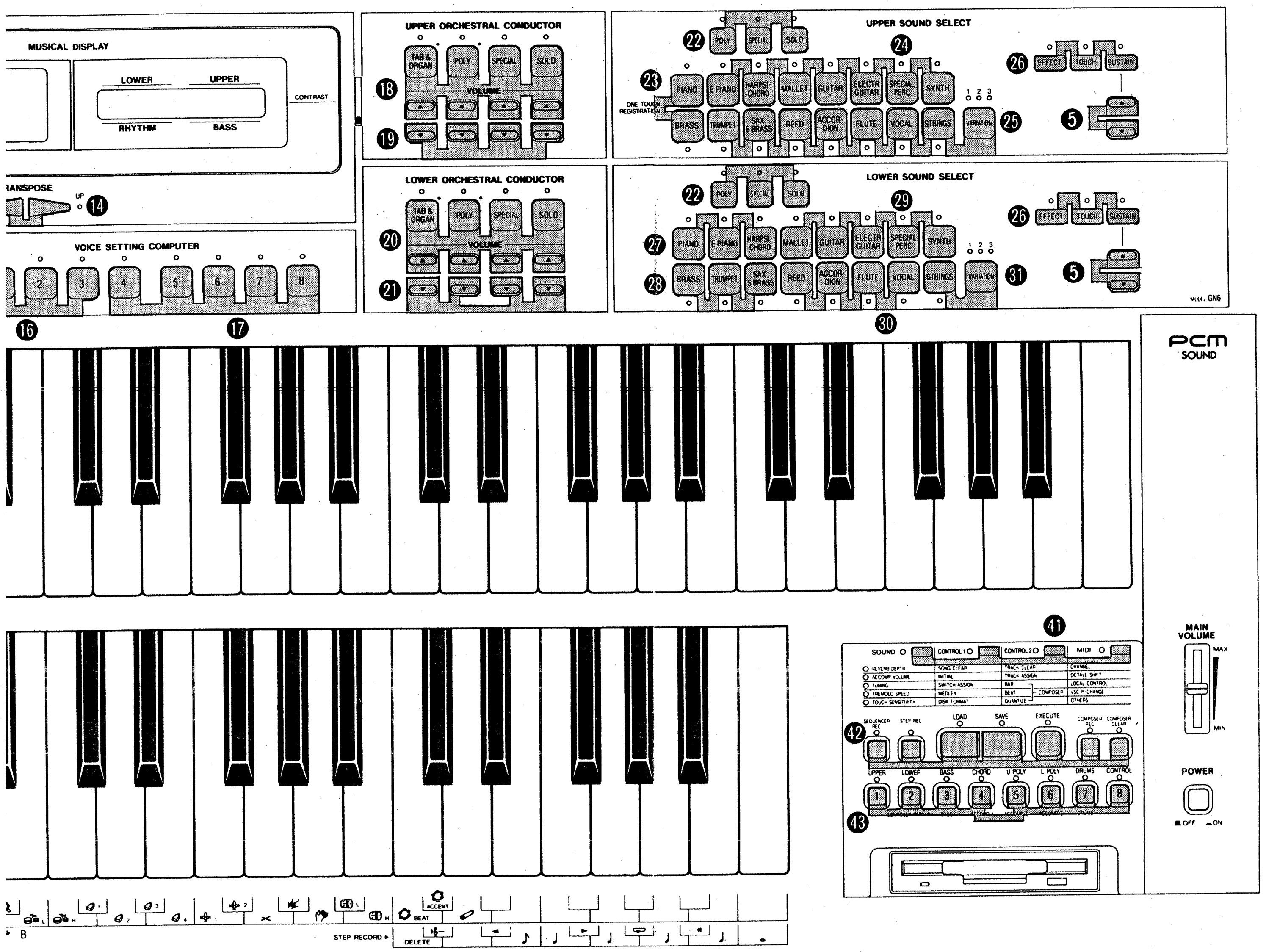
BUTTON

Ref. No.		Part No.	Description	P/S
○	1	QGUG1106AA02	Button	1
○	2	QGUG1108AA02	Button	1
○	3	QGUG1181AA01	Button	1
○	4	QGUG1178AA01	Button	1
	5	QGUG1122AA01	Button	4
	6	QGUG1102AA01	Button	1
○	7	QGUG1174AA01	Button	1
○	8	QGUG1104AA02	Button	1
○	9	QGUG1175AA01	Button	1
	10	QGUG1103AA01	Button	1
○	11	QGUG1175AB01	Button	1
○	12	QGUG1105AA02	Button	1
○	13	QGUG1185AA	Button	1
	14	QGUG1107AA	Button	2
○	15	QGUG1176AA	Button	1
	16	QGUG1109AA02	Button	1
○	17	QGUG1180AA01	Button	1
○	18	QGUG1112AA01	Button	1
	19	QGUG1113AA01	Button	1
	20	QGUG1110AA01	Button	1
	21	QGUG1111AA01	Button	1
	22	QGUG1123AA01	Button	2
○	23	QGUG1183AA01	Button	1
○	24	QGUG1128AA02	Button	1
○	25	QGUG1127AA02	Button	1
	26	QGUG1124AA01	Button	2
○	27	QGUG1182AA02	Button	1
○	28	QGUG1182AA01	Button	1
○	29	QGUG1121AA02	Button	1
○	30	QGUG1120EA01	Button	1

Ref. No.		Part No.	Description	P/S
○	31	QGUG1187AA01	Button	1
○	32	QGUG1186AA	Button	1
○	33	QGUG1184AA01	Button	1
○	34	QGUG1118AA02	Button	1
○	35	QGUG1117AA02	Button	1
○	36	QGUG1177AA	Button	1
○	37	QGUG1179AA01	Button	1
	38	QGUG1116CA	Button	1
	39	QGUG1115AA01	Button	1
○	40	QGUG1114BB01	Button	1
	41	QGUG1131AA	Button	1
	42	QGUG1132AA	Button	1
	43	QGUG1133AA01	Button	1

PA


MUSICAL DISPLAY
LOWER
UPPER
RHYTHM
BASS
CONTRAST
ANSPOSE
UP
⑭
VOICE SETTING COMPUTER
2
3
4
5
6
7
8
⑯
⑰
UPPER ORCHESTRAL CONDUCTOR
TAB & ORGAN
POLY
SPECIAL
SOLO
VOLUME
⑱
⑲
LOWER ORCHESTRAL CONDUCTOR
⑳
㉑
UPPER SOUND SELECT
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㉖
❺
ONE TOUCH REGISTRATION
PIANO
E.PIANO
HARPSI CHORD
MALLET
GUITAR
ELECTR GUITAR
SPECIAL PERC
SYNTH
BRASS
TRUMPET
SAX S.BRASS
REED
ACCOR-DION
FLUTE
VOCAL
STRINGS
VARIATION
EFFECT
TOUCH
SUSTAIN
LOWER SOUND SELECT
㉗
㉘
㉙
㉚
㉛
PCM SOUND
MAIN VOLUME
MAX
MIN
POWER
OFF
ON
㊶
㊷
㊸
SOUND
CONTROL 1
CONTROL 2
MIDI
SEQUENCER REC
STEP REC
LOAD
SAVE
EXECUTE
COMPOSER REC
COMPOSER CLEAR
UPPER
LOWER
BASS
CHORD
U.POLY
L.POLY
DRUMS
CONTROL
ACCENT
BEAT
STEP RECORD
DELETE

	P/S
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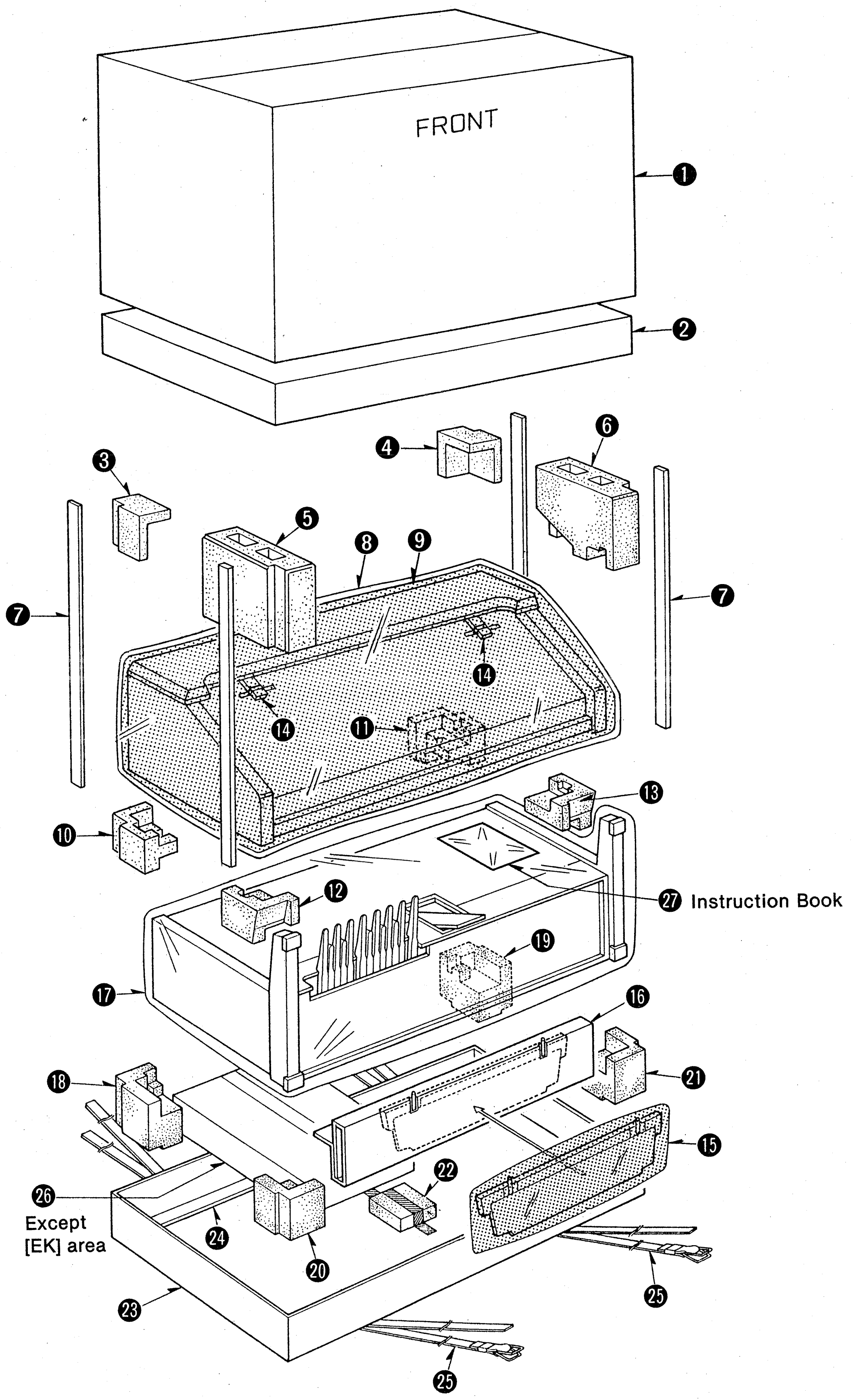
	1

	Ref. No.	Part No.	Description	P/S
○	31	QGUG1187AA01	Button	1
○	32	QGUG1186AA	Button	1
○	33	QGUG1184AA01	Button	1
○	34	QGUG1118AA02	Button	1
○	35	QGUG1117AA02	Button	1
○	36	QGUG1177AA	Button	1
○	37	QGUG1179AA01	Button	1
	38	QGUG1116CA	Button	1
	39	QGUG1115AA01	Button	1
○	40	QGUG1114BB01	Button	1
	41	QGUG1131AA	Button	1
	42	QGUG1132AA	Button	1
	43	QGUG1133AA01	Button	1

PACKING


FRONT
❶
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㉖ Except [EK] area
㉗ Instruction Book

PACKING PARTS

	Ref. No.		Part No.	Description	P/S
○	1		QPGG0019AA	Carton Box	1
○	2		QPGG0007AA	Top Case	1
○	3	PS	QPNG0020AA	Pad	1
○	4	PS	QPNG0021AA	Pad	1
○	5	PS	QPNG0037AA	Pad	1
○	6	PS	QPNG0038AA	Pad	1
○	7		QPQG002AA	Prop	4
	8	PE	SPHG220A	Polyethylene Bag	1
	9	PE	SPHG620A	Protection Sheet	1
○	10	PS	QPNG0016AA	Pad	1
○	11	PS	QPNG0017AA	Pad	1
○	12	PS	QPNG0035AA	Pad	1
○	13	PS	QPNG0036AA	Pad	1
	14		SPNG5161A	Spacer	2
○	15	PE	SPHG2020A	Protection Sheet	1
○	16		SPNG2024B	Music Rack Case	1
	17	PE	SPHG770A	Polyethylene Bag	1
○	18	PS	QPNG0024AA	Pad	1
○	19	PS	QPNG0025AA	Pad	1
○	20	PS	QPNG0022AA	Pad	1
○	21	PS	QPNG0023AA	Pad	1
○	22	PS	SPNG5749A	Pad	1
○	23		QPGG0006AA	Bottom Case	1
○	24		QPQG001AA	Frame	2
	25		SPSG40A	Band	2
○	26		SPEG1168B	Carton Bench (Except EK)	1

	Ref. No.	Part No.	Description	P/S
	INSTRUCTION BOOK			
○	27	QQFGGN6AA	Instruction Book, EN only	1
○	27	QQFGGN6CA	Instruction Book, M only	1
○	27	QQFGGN6DA	Instruction Book, MC only	1
○	27	QQFGGN6EA	Instruction Book, EA EZ only	1
○	27	QQFGGN6FA	Instruction Book, EW only	1
○	27	QQFGGN6GA	Instruction Book, EF only	1
○	27	QQFGGN6HA	Instruction Book, EH only	1
○	27	QQFGGN6JA	Instruction Book, EP XM only	1
○	27	QQFGGN6KA	Instruction Book, X only	1
○	27	QQFGGN6LA	Instruction Book, EW only	1
○	27	QQFGGN6MA	Instruction Book, XT only	1